AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 2

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
0003	03-Jul-2002	W26GLG-2091-4923	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
CONTRACTING OFFICE (CA/CW) US ARMY ENGR DIST NORFOLK ATTN: CENAO-CT 803 FRONT STREET NORFOLK VA 23510-1096	DACA65	**See Item 6**	

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
	X	9A. AMENDMENT OF SOLICITATION NO. DACA65-02-R-0012
	X	9B. DATED (SEE ITEM 11) 17-Apr-2002
		10A. MOD. OF CONTRACT/ORDER NO.
		10B. DATED (SEE ITEM 13)
CODE / FACILITY CODE		

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

[X] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer [ ] is extended, [X] is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS.
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

[ ] A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

[ ] B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

[ ] C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

[ ] D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor [ ] is not, [ ] is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

AMENDMENT NO. 0003 to DACA65-02-R-0012, Aerial Delivery and Training Facility, Fort Lee, VA.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)	16C. DATE SIGNED 03-Jul-2002

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

1. SECTION 00800;

a. FAR 52.211-12, Liquidated Damages—Construction, DELETE "To be provided with subsequent amendment" and REPLACE with "$1,699.00".

b. E4LC11, Department of Labor Wage Rates (Construction), DELETE Rates in their entirety and REPLACE with General Decision Number VA020023, Modification NO. 1, dated 6/7/02.

2. Plans: ADD Drawing S-103, Roofing Framing Plan

3. Technical Specifications: Section 01055, Add the attached information containing geotechnical and soil boring information. Note that the information includes borings on the adjacent site for the next phase of the project and these borings are not on Phase I civil drawings.

General Decision Number VA020023

General Decision Number **VA020023**
Superseded General Decision No. VA010023
State: Virginia
Construction Type:
HEAVY
County(ies):
CHARLES CITY HOPEWELL* PETERSBURG*
DINWIDDIE NEW KENT PRINCE GEORGE
*INDEPENDENT CITIES
HEAVY CONSTRUCTION PROJECTS (Excluding Sewer and Water Lines)
Modification Number Publication Date
0 03/01/2002
1 06/07/2002

COUNTY(ies):
CHARLES CITY HOPEWELL* PETERSBURG*
DINWIDDIE NEW KENT PRINCE GEORGE

BOIL0045B 10/01/1999

	Rates	Fringes
BOILERMAKERS	21.37	10.66

ELEC0666C 12/01/2001

	Rates	Fringes
ELECTRICIANS	22.17	3.33+11.00%

ENGI0147M 05/01/2001

	Rates	Fringes
POWER EQUIPMENT OPERATORS:		
Cranes, 90 tons and over	19.88	5.93
Cranes, under 90 tons	18.88	5.93
Oilers	11.71	5.93

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* IRON0028I 05/01/2002

	Rates	Fringes
IRONWORKERS, STRUCTURAL & REINFORCING	18.50	7.85

SUVA2036A 11/02/1993

	Rates	Fringes
CARPENTERS	10.50	
LABORERS:		
Unskilled	6.59	
Pipelayers	8.27	
POWER EQUIPMENT OPERATORS:		
Backhoes	12.08	2.44
WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.		

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(v)).

In the listing above, the "SU" designation means that rates

listed under that identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

SOIL LABORATORY TEST RESULTS

Summary of Soil Laboratory Tests (9)
Gradation Test Curve (1)
Consolidation Test Curves (2)

Appendix B
Contract 993116

SUMMARY OF SOIL LABORATORY TESTS

BORING	DH-2	DH-3	DH-4	DH-5
DEPTH	0'-2'	8'-10'	8'-10'	2'-4'
SAMPLE TYPE	JAR	JAR	JAR	JAR
STRATUM	A	B1	B2	B1
SAMPLE DESCRIPTION	FINE TO COARSE SANDY LEAN CLAY (CL), TRACE GRAVEL, BROWN	FAT CLAY (CH),TRACE SAND AND GRAVEL, GRAY	FINE TO MEDIUM SILTY SAND (SM), CONTAINS MICA, BROWN	FAT CLAY (CH), TRACE SAND, GRAY AND BROWN
NATURAL MOISTURE CONTENT (%)	15.7	24.4	15.6	28.6
NATURAL WET DENSITY (pcf)	--	--	--	--
LIQUID LIMIT	35	53	NP	63
PLASTIC LIMIT	17	25	NP	31
PLASTICITY INDEX	18	28	NP	32
GRADATION DATA				
(% FINER THAN SIEVE)				
3/4"	--	--	--	--
NO. 4	--	--	--	--
NO. 40	--	--	--	--
NO. 200	60.4	86.4	32.9	93.2
MOISTURE DENSITY RELATION DATA (ASTM D-698)				
MAXIMUM DRY DENSITY (pcf)	--	--	--	--
OPTIMUM MOISTURE CONTENT (%)	--	--	--	--
CBR TEST DATA (VTM-8)				
BEFORE SOAK CBR	--	--	--	--
AFTER SOAK CBR	--	--	--	--
% SWELL	--	--	--	--
COMPACTED SAMPLE DRY DENSITY (pcf)	--	--	--	--
COMPACTED SAMPLE MOISTURE CONTENT (%)	--	--	--	--
REMARKS				

NOTES: 1. Soil tests in accordance with applicable ASTM, AASHTO and VTM Standards

Appendix B
Contract 993116

SUMMARY OF SOIL LABORATORY TESTS

BORING	DH-6	DH-7	DH-8	DH-9
DEPTH	2'-4'	4'-6'	8'-10'	4'-6'
SAMPLE TYPE	JAR	JAR	JAR	JAR
STRATUM	B1	B1	B2	B1
SAMPLE DESCRIPTION	FAT CLAY (CH), TRACE SAND, GRAY	FAT CLAY (CH), TRACE SAND, GRAY	FINE TO MEDIUM SILTY SAND (SM), CONTAINS MICA, TAN	FAT CLAY WITH SAND (CH), GRAY
NATURAL MOISTURE CONTENT (%)	27.0	27.4	11.2	22.4
NATURAL WET DENSITY (pcf)	--	--	--	--
LIQUID LIMIT	67	72	NP	78
PLASTIC LIMIT	28	28	NP	28
PLASTICITY INDEX	39	44	NP	50
GRADATION DATA				
(% FINER THAN SIEVE)				
3/4"	--	--	--	--
NO. 4	--	--	--	--
NO. 40	--	--	--	--
NO. 200	87.5	93.4	29.8	79.4
MOISTURE DENSITY RELATION DATA (ASTM D-698)				
MAXIMUM DRY DENSITY (pcf)	--	--	--	--
OPTIMUM MOISTURE CONTENT (%)	--	--	--	--
CBR TEST DATA (VTM-8)				
BEFORE SOAK CBR	--	--	--	--
AFTER SOAK CBR	--	--	--	--
% SWELL	--	--	--	--
COMPACTED SAMPLE DRY DENSITY (pcf)	--	--	--	--
COMPACTED SAMPLE MOISTURE CONTENT (%)	--	--	--	--
REMARKS				

NOTES: 1. Soil tests in accordance with applicable ASTM, AASHTO and VTM Standards

Appendix B
Contract 993116

SUMMARY OF SOIL LABORATORY TESTS

BORING	DH-10	DH-11	DH-12	DH-13
DEPTH	0'-2'	4'-6'	19'-20.5'	2'-4'
SAMPLE TYPE	JAR	JAR	JAR	JAR
STRATUM	A	A	B2	A
SAMPLE DESCRIPTION	FINE TO COARSE CLAYEY SAND (SC), TRACE GRAVEL, BROWN	FINE TO COARSE SANDY LEAN CLAY (CL), TRACE GRAVEL, DARK BROWN	FINE TO COARSE POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM), TAN	FINE TO MEDIUM SANDY SILTY CLAY (CL-ML), DARK BROWN
NATURAL MOISTURE CONTENT (%)	14.5	16.7	15.2	12.2
NATURAL WET DENSITY (pcf)	--	--	--	--
LIQUID LIMIT	41	22	NP	17
PLASTIC LIMIT	19	13	NP	13
PLASTICITY INDEX	22	9	NP	4
GRADATION DATA				
(% FINER THAN SIEVE)				
3/4"	--	--	--	--
NO. 4	--	--	76.3	--
NO. 40	--	--	--	--
NO. 200	40.3	59.0	7.0	68.9
MOISTURE DENSITY RELATION DATA (ASTM D-698)				
MAXIMUM DRY DENSITY (pcf)	--	--	--	--
OPTIMUM MOISTURE CONTENT (%)	--	--	--	--
CBR TEST DATA (VTM-8)				
BEFORE SOAK CBR	--	--	--	--
AFTER SOAK CBR	--	--	--	--
% SWELL	--	--	--	--
COMPACTED SAMPLE DRY DENSITY (pcf)	--	--	--	--
COMPACTED SAMPLE MOISTURE CONTENT (%)	--	--	--	--
REMARKS				

NOTES: 1. Soil tests in accordance with applicable ASTM, AASHTO and VTM Standards

Appendix B
Contract 993116

SUMMARY OF SOIL LABORATORY TESTS

BORING	DH-14	DH-15	DH-16	DH-17
DEPTH	4'-6'	8'-10'	2'-4'	6'-8'
SAMPLE TYPE	JAR	JAR	JAR	JAR
STRATUM	B1	B2	B1	B1
SAMPLE DESCRIPTION	FAT CLAY (CH), TRACE SAND, GRAY	FINE TO MEDIUM SILTY SAND (SM), TAN	FAT CLAY WITH SAND (CH), GRAY	FINE TO COARSE SANDY LEAN CLAY (CL), TRACE GRAVEL, GRAY
NATURAL MOISTURE CONTENT (%)	32.5	18.5	19.1	22.4
NATURAL WET DENSITY (pcf)	--	--	--	--
LIQUID LIMIT	78	NP	62	46
PLASTIC LIMIT	33	NP	22	22
PLASTICITY INDEX	45	NP	40	24
GRADATION DATA				
(% FINER THAN SIEVE)				
3/4"	--	--	--	--
NO. 4	--	--	--	--
NO. 40	--	--	--	--
NO. 200	96.1	32.9	74.7	60.1
MOISTURE DENSITY RELATION DATA (ASTM D-698)				
MAXIMUM DRY DENSITY (pcf)	--	--	--	--
OPTIMUM MOISTURE CONTENT (%)	--	--	--	--
CBR TEST DATA (VTM-8)				
BEFORE SOAK CBR	--	--	--	--
AFTER SOAK CBR	--	--	--	--
% SWELL	--	--	--	--
COMPACTED SAMPLE DRY DENSITY (pcf)	--	--	--	--
COMPACTED SAMPLE MOISTURE CONTENT (%)	--	--	--	--
REMARKS				

NOTES: 1. Soil tests in accordance with applicable ASTM, AASHTO and VTM Standards

Appendix B
Contract 993116

SUMMARY OF SOIL LABORATORY TESTS

BORING	DH-17A	DH-17B	DH-18	DH-19
DEPTH	23'-25'	21'-23'	0'-2'	14'-15.5'
SAMPLE TYPE	3" TUBE	3" TUBE	JAR	JAR
STRATUM	B2	B2	A	B2
SAMPLE DESCRIPTION	FINE TO MEDIUM SANDY FAT CLAY (CH), GRAY	FINE TO COARSE POORLY GRADED SAND WITH SILT (SP-SM), TAN	FINE TO COARSE SANDY LEAN CLAY (CL), BROWN AND RED BROWN	FINE TO MEDIUM SILTY SAND (SM), CONTAINS MICA, TAN
NATURAL MOISTURE CONTENT (%)	23.3	21.7	16.7	15.8
NATURAL WET DENSITY (pcf)	121.8	111.4	--	--
LIQUID LIMIT	52	--	41	NP
PLASTIC LIMIT	22	--	17	NP
PLASTICITY INDEX	30	--	24	NP
GRADATION DATA				
(% FINER THAN SIEVE)				
3/4"	100.0	100.0	--	--
NO. 4	100.0	100.0	--	--
NO. 40	96.7	33.9	--	--
NO. 200	50.1	7.4	59.3	34.7
MOISTURE DENSITY RELATION DATA (ASTM D-698)				
MAXIMUM DRY DENSITY (pcf)	--	--	--	--
OPTIMUM MOISTURE CONTENT (%)	--	--	--	--
CBR TEST DATA (VTM-8)				
BEFORE SOAK CBR	--	--	--	--
AFTER SOAK CBR	--	--	--	--
% SWELL	--	--	--	--
COMPACTED SAMPLE DRY DENSITY (pcf)	--	--	--	--
COMPACTED SAMPLE MOISTURE CONTENT (%)	--	--	--	--
REMARKS	SEE CONSOLIDATION CURVE SPECIFIC GRAVITY (ASTM D-854) = 2.67	SPECIFIC GRAVITY (ASTM D-854) = 2.68		

NOTES: 1. Soil tests in accordance with applicable ASTM, AASHTO and VTM Standards

Appendix B
Contract 993116

SUMMARY OF SOIL LABORATORY TESTS

BORING	DH-20	DH-21	DH-22	DH-23
DEPTH	2'-4'	4'-6'	2'-4'	4'-6'
SAMPLE TYPE	JAR	JAR	JAR	JAR
STRATUM	B1	B1	B1	B1
SAMPLE DESCRIPTION	FAT CLAY WITH SAND (CH), GRAY	FAT CLAY (CH), TRACE SAND, GRAY	FAT CLAY WITH SAND (CH), GRAY AND RED BROWN	FAT CLAY (CH), TRACE SAND, GRAY AND BROWN
NATURAL MOISTURE CONTENT (%)	22.1	30.1	28.5	31.9
NATURAL WET DENSITY (pcf)	--	--	--	--
LIQUID LIMIT	68	96	74	70
PLASTIC LIMIT	25	38	27	34
PLASTICITY INDEX	43	58	47	36
GRADATION DATA				
(% FINER THAN SIEVE)				
3/4"	--	--	--	--
NO. 4	--	--	--	--
NO. 40	--	--	--	--
NO. 200	84.2	91.3	82.9	97.3
MOISTURE DENSITY RELATION DATA (ASTM D-698)				
MAXIMUM DRY DENSITY (pcf)	--	--	--	--
OPTIMUM MOISTURE CONTENT (%)	--	--	--	--
CBR TEST DATA (VTM-8)				
BEFORE SOAK CBR	--	--	--	--
AFTER SOAK CBR	--	--	--	--
% SWELL	--	--	--	--
COMPACTED SAMPLE DRY DENSITY (pcf)	--	--	--	--
COMPACTED SAMPLE MOISTURE CONTENT (%)	--	--	--	--
REMARKS				

NOTES: 1. Soil tests in accordance with applicable ASTM, AASHTO and VTM Standards

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Contract 993116

SUMMARY OF SOIL LABORATORY TESTS

BORING	DH-24	DH-25	DH-26	DH-27
DEPTH	2'-4'	2'-4'	4'-6'	2'-4'
SAMPLE TYPE	JAR	JAR	JAR	JAR
STRATUM	A	A	B1	B1
SAMPLE DESCRIPTION	FINE TO MEDIUM SANDY SILT (ML), BROWN	FINE TO COARSE CLAYEY SAND (SC), TRACE GRAVEL, BROWN	LEAN CLAY WITH SAND (CL), GRAY	FAT CLAY WITH SAND (CH), GRAY AND BROWN
NATURAL MOISTURE CONTENT (%)	13.9	14.8	24.0	24.4
NATURAL WET DENSITY (pcf)	--	--	--	--
LIQUID LIMIT	NP	23	31	86
PLASTIC LIMIT	NP	14	16	29
PLASTICITY INDEX	NP	9	15	57
GRADATION DATA				
(% FINER THAN SIEVE)				
3/4"	--	--	--	--
NO. 4	--	--	--	--
NO. 40	--	--	--	--
NO. 200	62.3	46.3	79.1	82.9
MOISTURE DENSITY RELATION DATA (ASTM D-698)				
MAXIMUM DRY DENSITY (pcf)	--	--	--	--
OPTIMUM MOISTURE CONTENT (%)	--	--	--	--
CBR TEST DATA (VTM-8)				
BEFORE SOAK CBR	--	--	--	--
AFTER SOAK CBR	--	--	--	--
% SWELL	--	--	--	--
COMPACTED SAMPLE DRY DENSITY (pcf)	--	--	--	--
COMPACTED SAMPLE MOISTURE CONTENT (%)	--	--	--	--
REMARKS				

NOTES: 1. Soil tests in accordance with applicable ASTM, AASHTO and VTM Standards

Appendix B
Contract 993116

SUMMARY OF SOIL LABORATORY TESTS

BORING	DH-28	DH-29	DH-30	
DEPTH	4'-6'	4'-6'	2'-4'	
SAMPLE TYPE	JAR	JAR	JAR	
STRATUM	B1	B1	B1	
SAMPLE DESCRIPTION	FAT CLAY (CH), TRACE SAND, GRAY AND RED BROWN	FAT CLAY (CH), TRACE SAND, GRAY	LEAN CLAY WITH SAND (CL), GRAY AND BROWN	
NATURAL MOISTURE CONTENT (%)	28.4	26.9	18.8	
NATURAL WET DENSITY (pcf)	--	--	--	
LIQUID LIMIT PLASTIC LIMIT PLASTICITY INDEX	85 31 54	66 29 37	44 20 24	
GRADATION DATA				
(% FINER THAN SIEVE)				
3/4"	--	--	--	
NO. 4	--	--	--	
NO. 40	--	--	--	
NO. 200	94.5	89.1	71.6	
MOISTURE DENSITY RELATION DATA (ASTM D-698)				
MAXIMUM DRY DENSITY (pcf)	--	--	--	
OPTIMUM MOISTURE CONTENT (%)	--	--	--	
CBR TEST DATA (VTM-8)				
BEFORE SOAK CBR	--	--	--	
AFTER SOAK CBR	--	--	--	
% SWELL	--	--	--	
COMPACTED SAMPLE DRY DENSITY (pcf)	--	--	--	
COMPACTED SAMPLE MOISTURE CONTENT (%)	--	--	--	
REMARKS				

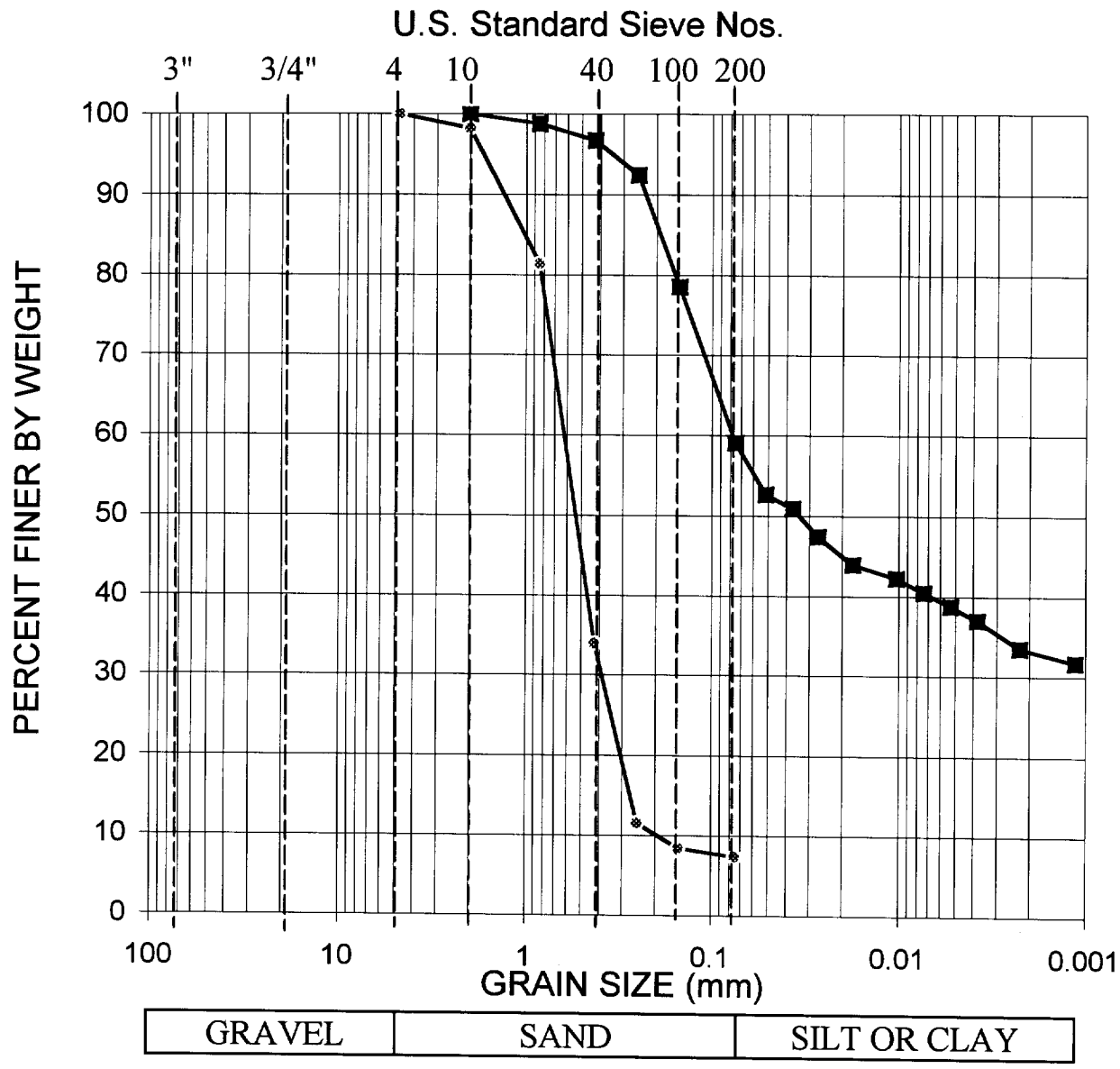
NOTES: 1. Soil tests in accordance with applicable ASTM, AASHTO and VTM Standards

Appendix B
Contract 993116

SUMMARY OF SOIL LABORATORY TESTS

BORING	DH-2	DH-8	DH-12	DH-20
DEPTH	4'-6'	4'-6'	4'-6'	4'-6'
SAMPLE TYPE	JAR	JAR	JAR	JAR
STRATUM	B1	B1	A	B1
SAMPLE DESCRIPTION	FAT CLAY (CH) TRACE SAND, GRAY AND BROWN (VISUAL CLASSIFICATION)	FAT CLAY (CH) TRACE SAND, GRAY AND BROWN (VISUAL CLASSIFICATION)	FINE TO MEDIUM SANDY LEAN CLAY (CL), GRAY (VISUAL CLASSIFICATION)	FINE TO MEDIUM SANDY LEAN CLAY (CL), GRAY (VISUAL CLASSIFICATION)
NATURAL MOISTURE CONTENT (%)	--	--	--	--
PH	4.4	4.2	5.5	3.9
LIQUID LIMIT	--	--	--	--
PLASTIC LIMIT	--	--	--	--
PLASTICITY INDEX	--	--	--	--
GRADATION DATA				
(% FINER THAN SIEVE)				
3/4"	--	--	--	--
NO. 4	--	--	--	--
NO. 40	--	--	--	--
NO. 200	--	--	--	--
MOISTURE DENSITY RELATION DATA (ASTM D-698)				
MAXIMUM DRY DENSITY (pcf)	--	--	--	--
OPTIMUM MOISTURE CONTENT (%)	--	--	--	--
CBR TEST DATA (VTM-8)				
BEFORE SOAK CBR	--	--	--	--
AFTER SOAK CBR	--	--	--	--
% SWELL	--	--	--	--
COMPACTED SAMPLE DRY DENSITY (pcf)	--	--	--	--
COMPACTED SAMPLE MOISTURE CONTENT (%)	--	--	--	--
REMARKS				

NOTES: 1. Soil tests in accordance with applicable ASTM, AASHTO and VTM Standards



Key	Sample	Depth(ft.)	Sample Description	Class.	LL	PI
■	DH-17A	23'-25'	FINE TO MEDIUM SANDY FAT CLAY, GRAY	CH	52	30
◍	DH-17B	21'-23'	FINE TO COARSE POORLY GRADED SAND WITH SILT, TAN	SP-SM	-	-

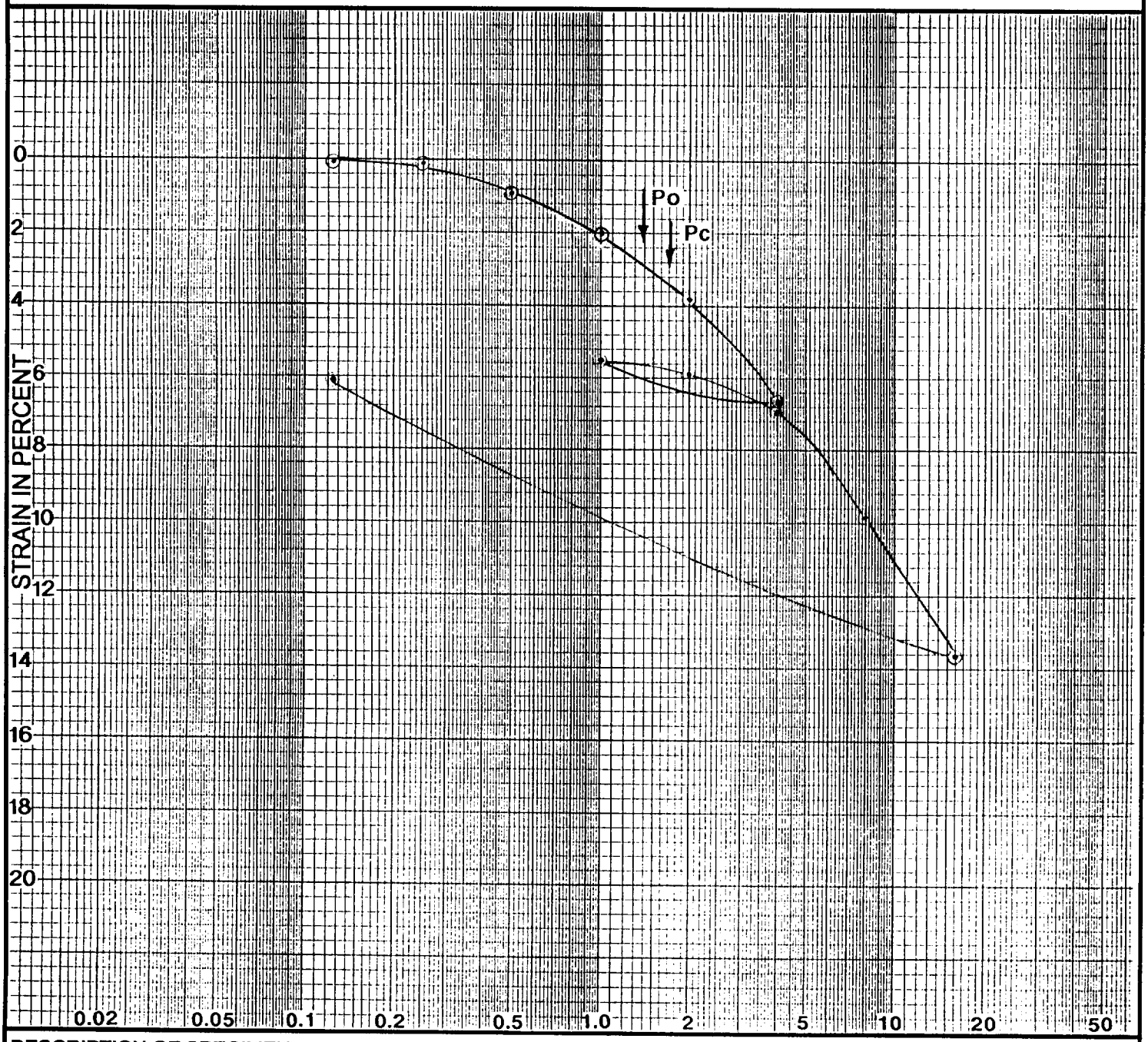
Schnabel Engineering

GRADATION CURVES

Project: Aerial Deliery and Field Services Training Facility (ADFS), Fort Lee, Fort Lee, Virginia

Contract No. 993116

PRESSURE VS. STRAIN CURVE



DESCRIPTION OF SPECIMEN: FINE TO MEDIUM SANDY FAT CLAY, GRAY

CLASSIFICATION: CH STRATUM DESIGNATION: B2 BORING NO.: DH-17A DEPTH: 23'-25'

DIAMETER OF SPECIMEN (in.)	2.50
INITIAL THICKNESS OF SPECIMEN (in.)	1.00
INITIAL VOID RATIO, e_o	0.7
PROBABLE PRECONSOLIDATION STRESS (tsf) Pc	1.7
APPPROXIMATE OVERBURDEN STRESS (tsf) Po	1.4
COMPRESSION RATIO; FROM 8 TO 16 (tsf)	0.13
COMPRESSION INDEX; FROM 8 TO 16 (tsf)	0.21
RECOMPRESSION RATIO; FROM 1 TO 2 (tsf)	0.01
RECOMPRESSION INDEX; FROM 1 TO 2 (tsf)	0.02

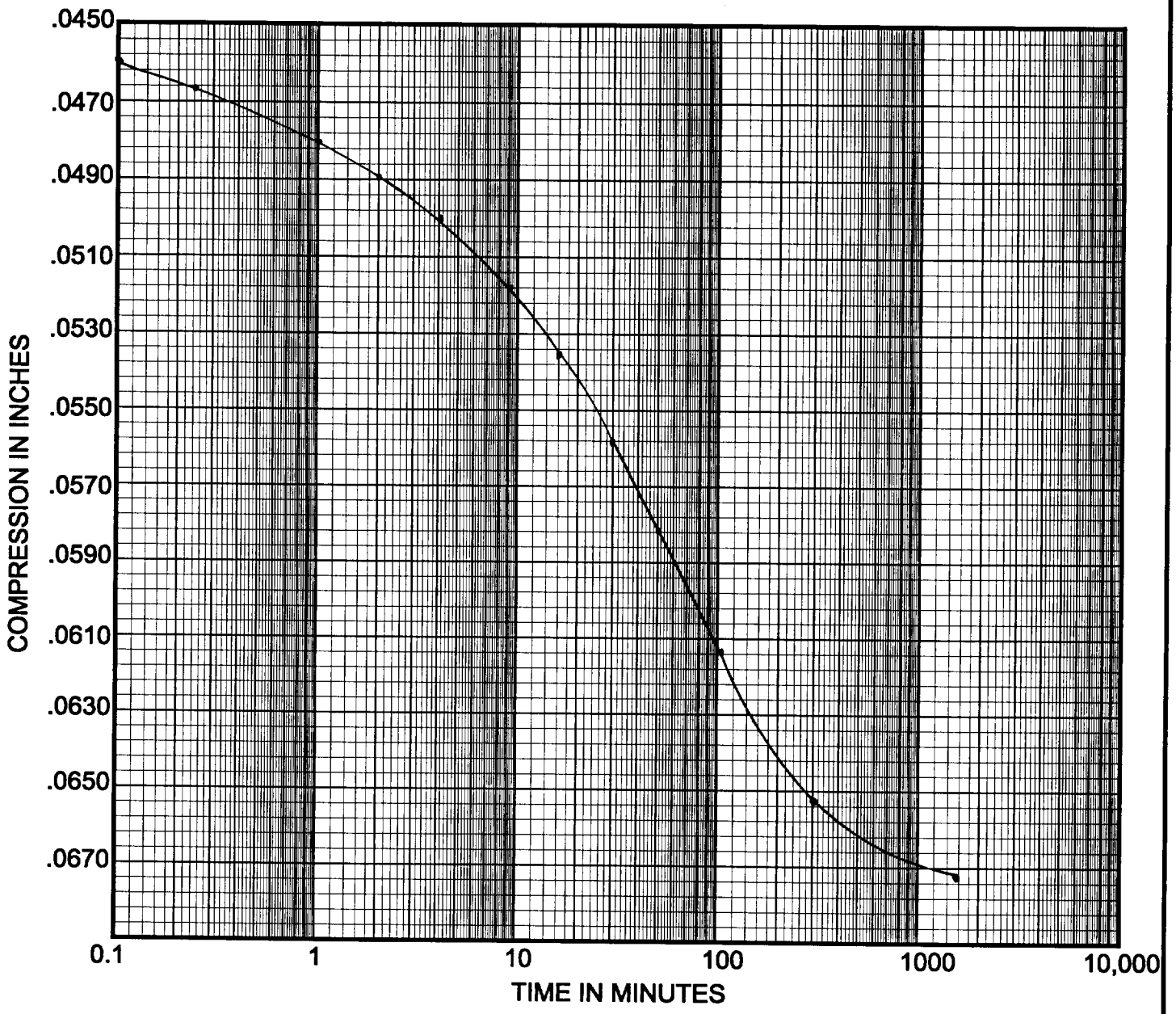
Schnabel Engineering

CONSOLIDATION TEST

PROJECT: AERIAL DELIVERY AND FIELD SERVICES TRAINING FACILITY (ADFS) FORT LEE, FORT LEE, VIRGINIA

DATE: MAY 1999 CONTRACT NO: 993116

TIME COMPRESSION CURVES



DESCRIPTION OF SPECIMEN: FINE TO MEDIUM SANDY FAT CLAY, GRAY

CLASSIFICATION: CH STRATUM DESIGNATION: B2 BORING NO. DH-17A DEPTH: 23-25FT

PRESSURE INCREMENT OF TIME COMPRESSION CURVES

CURVE NUMBER	PRESSURE INCREMENT	
	FROM (tsf)	TO (tsf)
1	2	4
2		
3		
4		
5		
6		
7		
8		

Schnabel Engineering

CONSOLIDATION TEST
TIME-CONSOLIDATION CURVES

PROJECT: AERIAL DELIVERY AND FIELD SERVICES

TRAINING FACILITY (ADFS)
FT. LEE, FORT LEE, VIRGINIA

DATE: MAY 1999 CONTRACT NO: 993116

Appendix C

IN SITU TEST RESULTS

Dilatometer Test Results
Dilatometer Test Curves (4)

DILATOMETER TEST

The dilatometer test is performed by pushing a flat blade that is connected to the end of a series of rods into the soil. Once the test depth is reached, the operator uses gas pressure to expand horizontally into the soil a circular steel membrane located on one side of the blade. The operator measures the pressure on the blade before expansion and then the pressure required to produce an expansion of 1 mm of the membrane into the soils. The membrane is then deflated and a final pressure reading is taken. The test sequence takes about one to two minutes to perform. The blade is then advanced to the next test depth. A series of dilatometer tests is referred to as the D.T. sounding.

The dilatometer test furnishes information that can be correlated to the strength and deformation characteristics of the material. Results provide a basis to predict bearing capacity and settlement of foundations. A description of the dilatometer apparatus, test procedures and output data are described in the Federal Highways Administration Publication FHWA-SA-91-044.

EARTH ENGINEERING AND SCIENCES, INC. TEST NO. DMT - 1
FILE NAME: SCHNABEL ENGINEERING
FILE NUMBER: 99-059

RECORD OF DILATOMETER TEST NO. DMT - 1
USING DATA REDUCTION PROCEDURES IN MARCHETTI (ASCE,J-GED,MARCH 80)
KO IN SANDS DETERMINED USING SCHMERTMANN METHOD (1983)

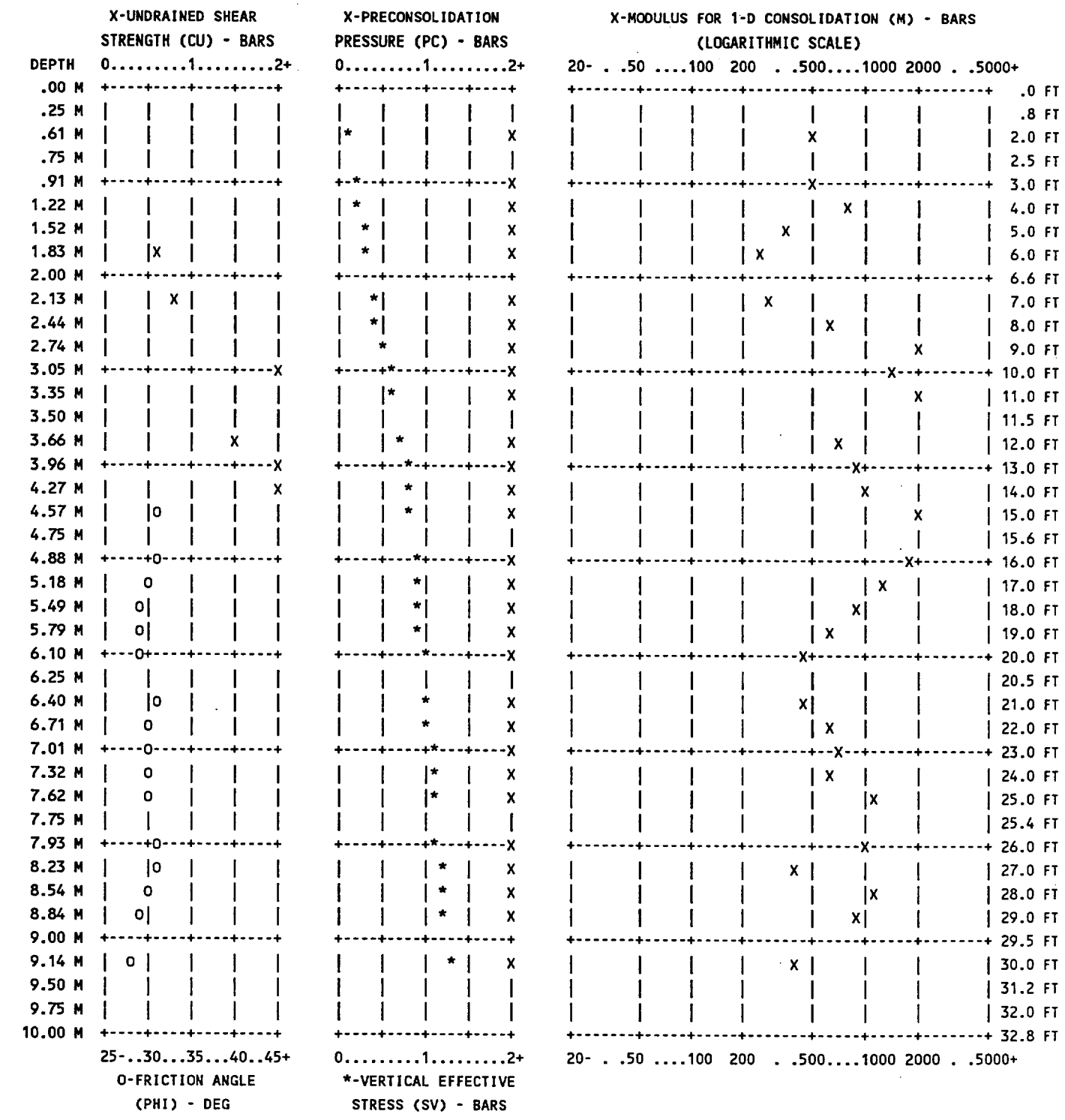
LOCATION: FT Lee, VA.
PERFORMED - DATE: 10 MAR 1999
BY: ALFRED E. MYERS

CALIBRATION INFORMATION:
DA= .21 BARS DB= .45 BARS ZM= .00 BARS ZW= 4.00 METERS

1 BAR = 1.019 KG/CM2 = 1.044 TSF = 14.51 PSI ANALYSIS USES H2O UNIT WEIGHT = 1.000 T/M3

Z (M)	THRUST (KG)	A (BAR)	B (BAR)	ED (BAR)	ID	KD	UO (BAR)	GAMMA (T/M3)	SV (BAR)	PC (BAR)	OCR	KO	CU (BAR)	PHI (DEG)	M (BAR)	SOIL TYPE
.61	4376.	3.60	7.95	134.	1.07	31.80	.000	1.800	.114	8.53	74.86	3.60			483.4	SILT
.91	5251.	4.15	9.10	156.	1.09	24.82	.000	1.800	.167	8.49	50.86	3.14			525.3	SILT
1.22	5689.	6.60	13.65	233.	1.03	28.97	.000	1.950	.224	14.50	64.72	3.42			816.5	SILT
1.52	5689.	3.75	7.75	122.	.92	13.58	.000	1.800	.279	5.54	19.86	2.22			339.5	SILT
1.83	5251.	3.35	6.60	94.	.79	10.27	.000	1.800	.334	4.29	12.84	1.87	.568		238.3	CLAYEY SILT
2.13	4813.	4.35	7.80	102.	.66	11.42	.000	1.800	.387	5.86	15.15	2.00	.752		266.9	CLAYEY SILT
2.44	5251.	6.00	13.15	236.	1.16	13.25	.000	1.950	.444	8.49	19.11	2.18			654.2	SILT
2.74	6126.	17.60	33.60	559.	.95	33.84	.000	2.100	.504	41.54	82.47	3.73			2042.3	SILT
3.05	6126.	15.20	27.00	406.	.79	26.17	.000	2.100	.568	31.35	55.23	3.23	3.107		1384.4	CLAYEY SILT
3.35	6126.	15.10	31.80	584.	1.16	23.05	.000	2.100	.629	28.52	45.31	3.01			1923.1	SILT
3.66	6126.	8.75	16.40	255.	.85	12.46	.000	1.950	.691	11.99	17.36	2.10	1.496		689.8	CLAYEY SILT
3.96	6564.	12.00	20.98	303.	.74	15.71	.000	2.100	.751	18.71	24.92	2.42	2.172		887.5	CLAYEY SILT
4.27	6126.	11.95	22.05	344.	.85	14.80	.026	2.100	.788	17.88	22.70	2.33	2.116		987.5	CLAYEY SILT
4.57	8314.	14.60	33.25	655.	1.36	16.89	.056	2.100	.820	29.73	36.25	2.38		31.0	1963.9	SANDY SILT
4.88	15753.	12.00	29.55	615.	1.57	13.21	.086	2.100	.854	28.43	33.30	1.94		31.1	1700.7	SANDY SILT
5.18	14003.	10.35	24.00	473.	1.39	11.05	.116	2.100	.886	16.77	18.92	1.71		29.8	1228.1	SANDY SILT
5.49	8752.	8.55	19.80	386.	1.38	8.81	.146	1.950	.917	11.69	12.74	1.46		29.2	917.1	SANDY SILT
5.79	8752.	5.60	15.15	324.	1.80	5.49	.176	1.950	.945	8.99	9.51	1.06		29.3	625.8	SANDY SILT
6.10	7876.	4.45	12.20	258.	1.82	4.21	.206	1.900	.973	5.82	5.98	.92		28.7	434.5	SILTY SAND
6.40	7001.	3.25	12.75	322.	3.34	2.78	.236	1.900	1.000	3.29	3.29	.69		30.9	447.3	SAND
6.71	7439.	5.20	16.00	369.	2.30	4.51	.266	2.000	1.029	8.49	8.25	.92		30.1	654.4	SILTY SAND
7.01	7439.	5.65	17.25	399.	2.29	4.74	.295	2.000	1.058	9.62	9.09	.94		30.2	724.3	SILTY SAND
7.32	7439.	5.15	15.75	362.	2.30	4.17	.326	2.000	1.089	7.74	7.11	.88		29.9	615.6	SILTY SAND
7.62	10064.	9.45	23.40	484.	1.62	7.73	.355	1.950	1.117	15.63	13.98	1.32		29.7	1091.1	SANDY SILT
7.93	13127.	7.00	21.15	492.	2.30	5.36	.386	2.000	1.147	13.19	11.50	1.01		30.7	948.7	SILTY SAND
8.23	6564.	3.25	12.80	324.	3.59	2.21	.415	1.900	1.175	2.49	2.12	.63		30.7	385.4	SAND
8.54	10064.	9.95	24.70	513.	1.64	7.49	.446	1.950	1.203	16.47	13.69	1.29		29.7	1141.3	SANDY SILT
8.84	8752.	8.75	20.95	420.	1.53	6.42	.475	1.950	1.231	11.28	9.16	1.18		28.9	871.7	SANDY SILT
9.14	7001.	5.20	12.75	251.	1.59	3.63	.504	1.800	1.257	4.58	3.64	.87		27.8	383.1	SANDY SILT

END OF SOUNDING



END OF SOUNDING

NOTE: TEST PERFORMED ON PAVED LOT PRE-DRILLED 0.9'

EARTH ENGINEERING AND SCIENCES, INC. TEST NO. DMT - 2
FILE NAME: SCHNABEL ENGINEERING
FILE NUMBER:

RECORD OF DILATOMETER TEST NO. DMT - 2
USING DATA REDUCTION PROCEDURES IN MARCHETTI (ASCE,J-GED,MARCH 80)
KO IN SANDS DETERMINED USING SCHMERTMANN METHOD (1983)

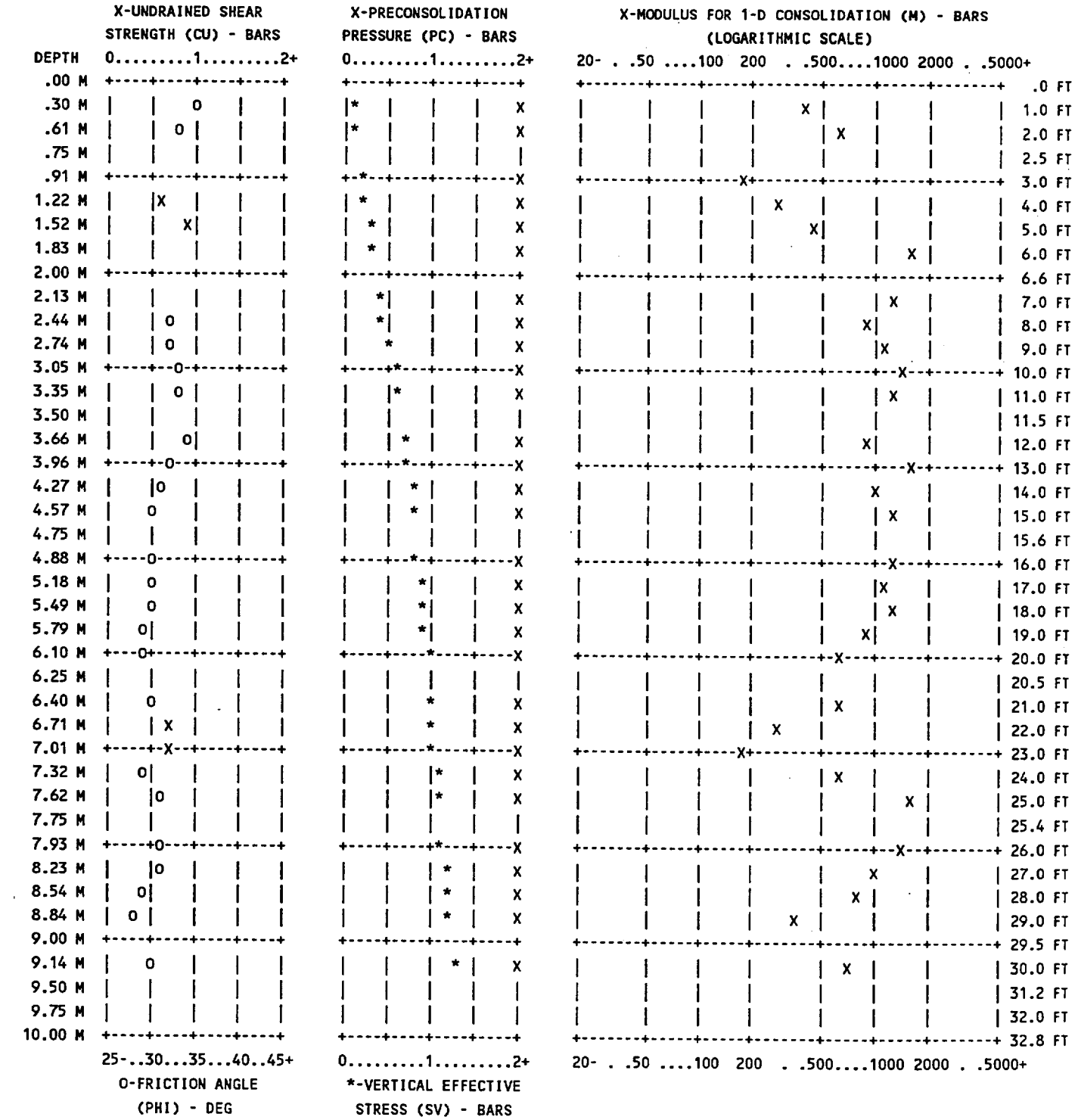
LOCATION: FT Lee, VA.
PERFORMED - DATE: 10 MAR 1999
BY: ALFRED E. MYERS

CALIBRATION INFORMATION:
DA= .21 BARS DB= .45 BARS ZM= .00 BARS ZW= 4.00 METERS

1 BAR = 1.019 KG/CM2 = 1.044 TSF = 14.51 PSI ANALYSIS USES H2O UNIT WEIGHT = 1.000 T/M3

Z (M)	THRUST (KG)	A (BAR)	B (BAR)	ED (BAR)	ID	KD	UO (BAR)	GAMMA (T/M3)	SV (BAR)	PC (BAR)	OCR	KO	CU (BAR)	PHI (DEG)	M (BAR)	SOIL TYPE
.30	4371.	1.60	5.50	118.	2.06	28.91	.000	1.800	.057	16.38	*****	3.72		34.5	413.8	SILTY SAND
.61	4813.	3.35	9.15	187.	1.63	29.55	.000	1.800	.112	16.73	*****	3.84		33.0	660.3	SANDY SILT
.91	4371.	1.80	4.40	71.	1.06	11.72	.000	1.700	.163	2.57	15.76	2.03			187.3	SILT
1.22	4371.	3.00	6.25	94.	.88	14.33	.000	1.700	.215	4.64	21.58	2.29	.554		268.0	CLAYEY SILT
1.52	4813.	4.85	9.60	149.	.88	18.22	.000	1.800	.267	8.37	31.39	2.63	.928		457.2	CLAYEY SILT
1.83	6564.	12.40	24.25	408.	.98	36.98	.000	2.100	.326	30.87	94.73	3.91			1524.1	SILT
2.13	6126.	9.95	20.55	362.	1.08	25.07	.000	1.950	.385	19.91	51.65	3.16			1220.5	SILT
2.44	4813.	5.35	15.60	349.	1.98	11.40	.000	2.000	.446	21.08	47.32	1.69		32.0	917.0	SILTY SAND
2.74	5689.	6.75	18.40	400.	1.80	12.71	.000	2.000	.504	22.19	44.00	1.85		31.9	1091.9	SILTY SAND
3.05	6126.	8.00	23.50	541.	2.09	13.21	.000	2.000	.565	36.40	64.39	1.87		33.3	1494.3	SILTY SAND
3.35	5689.	6.70	20.65	484.	2.23	10.01	.000	2.000	.624	23.64	37.87	1.51		32.7	1210.8	SILTY SAND
3.66	5251.	4.35	17.40	451.	3.30	5.75	.000	2.000	.685	9.01	13.16	.96		33.7	911.8	SAND
3.96	8752.	10.20	26.50	570.	1.71	12.92	.000	2.100	.745	29.24	39.23	1.89		31.6	1562.7	SANDY SILT
4.27	9189.	7.05	19.45	428.	1.85	8.51	.026	2.000	.781	17.81	22.80	1.38		30.7	1004.2	SILTY SAND
4.57	9189.	10.35	24.05	475.	1.39	12.13	.056	2.100	.812	17.83	21.96	1.84		30.1	1274.7	SANDY SILT
4.88	7001.	9.55	23.10	470.	1.50	10.71	.086	1.950	.843	17.61	20.88	1.66		30.2	1204.5	SANDY SILT
5.18	7001.	9.35	21.95	435.	1.42	10.15	.116	1.950	.871	14.84	17.03	1.61		29.7	1093.9	SANDY SILT
5.49	9627.	10.40	23.80	464.	1.36	10.89	.146	2.100	.902	15.94	17.66	1.70		29.7	1197.9	SANDY SILT
5.79	7439.	8.25	19.80	397.	1.48	8.30	.176	1.950	.933	12.31	13.20	1.39		29.4	920.3	SANDY SILT
6.10	5251.	5.95	15.25	315.	1.64	5.74	.206	1.950	.962	8.27	8.61	1.10		29.0	619.9	SANDY SILT
6.40	5251.	5.15	15.20	342.	2.12	4.70	.236	2.000	.990	8.86	8.95	.95		29.8	616.2	SILTY SAND
6.71	5251.	5.45	10.15	147.	.82	5.10	.266	1.800	1.018	4.39	4.31	1.18	.722		267.9	CLAYEY SILT
7.01	4813.	5.35	8.85	103.	.58	4.92	.295	1.800	1.041	4.24	4.07	1.15	.706		183.5	SILTY CLAY
7.32	5689.	6.40	16.20	333.	1.65	5.46	.326	1.950	1.068	8.44	7.90	1.06		28.9	639.6	SANDY SILT
7.62	9627.	11.00	29.00	632.	1.82	9.09	.355	2.150	1.099	27.09	24.66	1.45		30.9	1522.5	SILTY SAND
7.93	9627.	10.65	28.45	624.	1.87	8.48	.386	2.150	1.134	26.29	23.19	1.38		30.8	1464.5	SILTY SAND
8.23	7001.	6.85	22.25	537.	2.62	5.07	.415	2.000	1.165	12.04	10.34	.95		31.3	1016.7	SILTY SAND
8.54	8314.	7.45	18.95	395.	1.71	5.58	.446	1.950	1.195	10.53	8.81	1.07		29.1	768.1	SANDY SILT
8.84	6126.	4.60	12.40	260.	1.88	3.25	.475	1.900	1.222	4.86	3.98	.81		28.3	375.5	SILTY SAND
9.14	6564.	6.00	17.85	408.	2.28	4.12	.504	2.000	1.250	8.68	6.94	.88		29.8	688.0	SILTY SAND

END OF SOUNDING



END OF SOUNDING

EARTH ENGINEERING AND SCIENCES, INC. TEST NO. DMT - 3
FILE NAME: SCHNABEL ENGINEERING
FILE NUMBER:

RECORD OF DILATOMETER TEST NO. DMT - 3
USING DATA REDUCTION PROCEDURES IN MARCHETTI (ASCE,J-GED,MARCH 80)
KO IN SANDS DETERMINED USING SCHMERTMANN METHOD (1983)

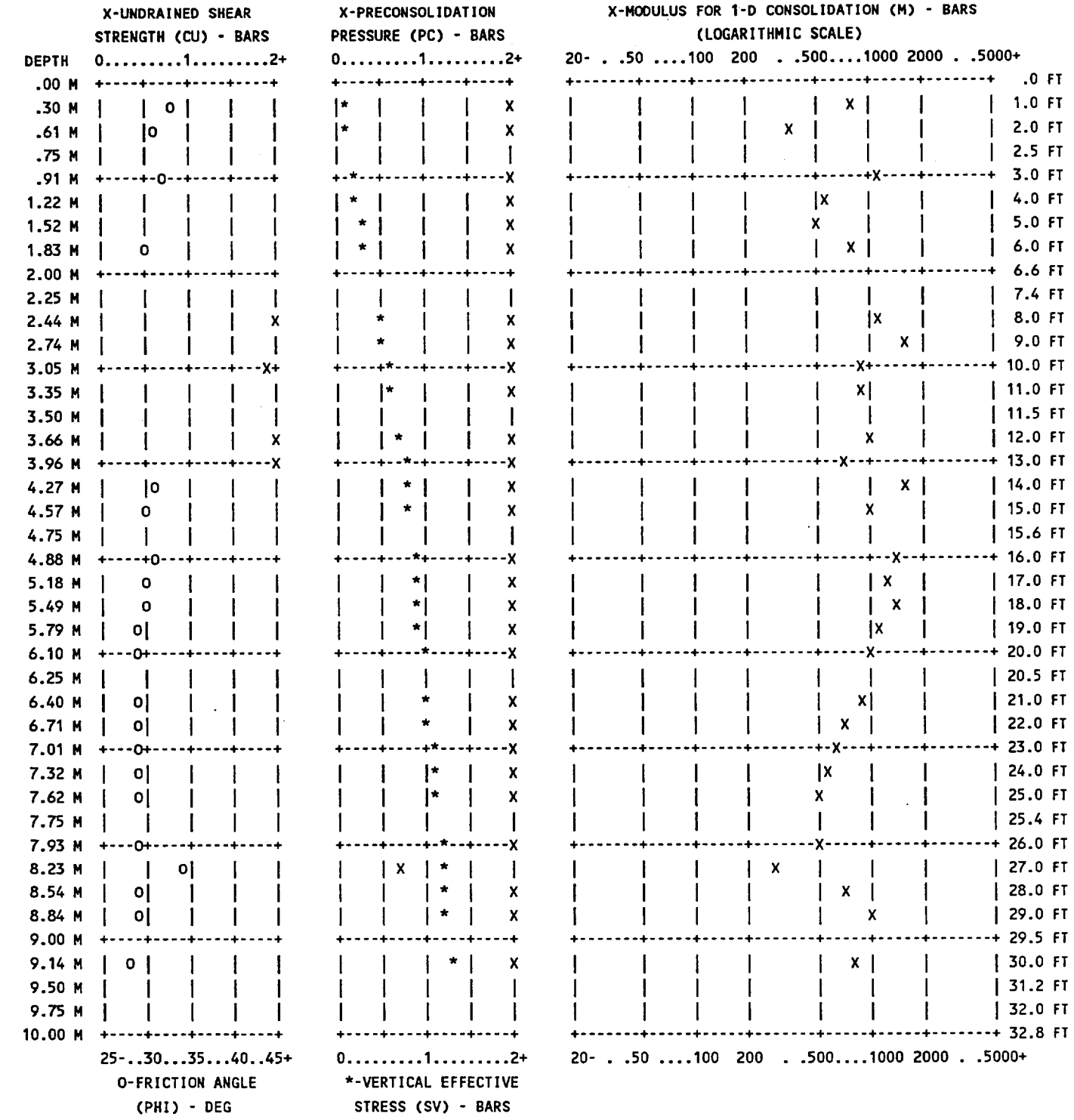
LOCATION: FT Lee, VA.
PERFORMED - DATE: 10 MAR 1999
BY: ALFRED E. MYERS

CALIBRATION INFORMATION:
DA= .21 BARS DB= .45 BARS ZM= .00 BARS ZW= 4.00 METERS

1 BAR = 1.019 KG/CM2 = 1.044 TSF = 14.51 PSI ANALYSIS USES H2O UNIT WEIGHT = 1.000 T/M3

Z (M)	THRUST (KG)	A (BAR)	B (BAR)	ED (BAR)	ID	KD	UO (BAR)	GAMMA (T/M3)	SV (BAR)	PC (BAR)	OCR	KO	CU (BAR)	PHI (DEG)	M (BAR)	SOIL TYPE
.30	5251.	3.80	9.35	178.	1.36	66.06	.000	1.800	.057	19.13	*****	8.22		33.2	763.9	SANDY SILT
.61	5251.	2.50	6.10	107.	1.20	23.25	.000	1.700	.110	5.10	46.28	3.15		30.8	353.4	SANDY SILT
.91	5251.	7.45	16.40	302.	1.20	44.19	.000	1.950	.164	20.56	*****	5.63		32.0	1180.0	SANDY SILT
1.22	4813.	4.65	9.90	167.	1.04	20.95	.000	1.800	.221	8.63	39.04	2.85			535.2	SILT
1.52	4813.	4.60	9.95	171.	1.08	16.70	.000	1.800	.274	7.51	27.40	2.50			510.2	SILT
1.83	5251.	6.00	13.55	251.	1.23	17.72	.000	1.950	.331	10.50	31.73	2.50		30.3	763.5	SANDY SILT
2.44	10502.	13.60	23.50	337.	.73	29.51	.000	2.100	.452	30.13	66.62	3.46	2.878		1186.6	CLAYEY SILT
2.74	12252.	12.85	26.45	471.	1.09	24.15	.000	2.100	.514	25.04	48.71	3.09			1572.2	SILT
3.05	12252.	10.40	19.40	304.	.86	17.71	.000	1.950	.576	17.28	30.02	2.59	1.934		924.0	CLAYEY SILT
3.35	10502.	9.20	18.95	331.	1.07	14.15	.000	1.950	.633	13.39	21.15	2.27			936.7	SILT
3.66	7001.	12.00	21.35	317.	.77	16.95	.000	2.100	.695	19.49	28.05	2.53	2.210		949.7	CLAYEY SILT
3.96	7001.	12.00	19.55	251.	.61	15.73	.000	1.950	.754	18.83	24.96	2.42	2.186		735.3	CLAYEY SILT
4.27	7001.	11.65	27.95	570.	1.49	14.00	.026	2.100	.789	25.43	32.21	2.04		30.9	1606.1	SANDY SILT
4.57	9189.	7.75	20.50	440.	1.74	8.91	.056	1.950	.820	17.35	21.17	1.44		30.5	1052.7	SANDY SILT
4.88	7001.	10.15	25.50	535.	1.62	11.21	.086	2.100	.851	22.79	26.79	1.71		30.8	1396.0	SANDY SILT
5.18	8752.	10.20	24.40	493.	1.48	10.89	.116	2.100	.883	18.43	20.86	1.68		30.1	1273.1	SANDY SILT
5.49	9189.	12.60	27.88	533.	1.29	13.02	.146	2.100	.917	19.37	21.13	1.95		29.8	1464.7	SANDY SILT
5.79	8752.	10.45	23.80	462.	1.35	10.38	.176	2.100	.949	15.31	16.14	1.64		29.5	1172.2	SANDY SILT
6.10	8314.	9.85	21.55	402.	1.25	9.49	.206	1.950	.980	11.84	12.08	1.55		28.9	984.9	SANDY SILT
6.40	8314.	8.80	19.80	377.	1.31	8.19	.236	1.950	1.008	10.54	10.45	1.40		28.8	868.3	SANDY SILT
6.71	7001.	6.95	17.05	344.	1.54	6.19	.266	1.950	1.037	9.05	8.72	1.15		28.9	701.0	SANDY SILT
7.01	7001.	6.25	15.80	324.	1.63	5.37	.295	1.950	1.065	8.05	7.56	1.06		28.8	616.9	SANDY SILT
7.32	6564.	5.20	14.75	324.	2.01	4.24	.326	2.000	1.095	8.04	7.34	.91		29.2	550.4	SILTY SAND
7.62	6564.	5.15	14.45	315.	1.98	4.07	.355	2.000	1.124	7.50	6.67	.89		29.1	522.3	SILTY SAND
7.93	6126.	4.80	13.95	309.	2.12	3.64	.386	1.900	1.153	6.34	5.50	.84		29.1	484.1	SILTY SAND
8.23	6564.	2.00	12.00	340.	7.39	1.13	.415	1.800	1.178	.69	.58	.41		33.6	289.3	SAND
8.54	7001.	6.95	17.80	371.	1.72	5.15	.446	1.950	1.205	9.38	7.79	1.03		28.9	693.8	SANDY SILT
8.84	7001.	10.60	23.40	442.	1.31	7.88	.475	2.100	1.235	12.05	9.76	1.36		28.7	1002.5	SANDY SILT
9.14	6564.	8.75	19.90	382.	1.39	6.27	.504	1.950	1.265	9.38	7.41	1.17		28.4	781.8	SANDY SILT

END OF SOUNDING



END OF SOUNDING

NOTE: READING AT 2.13M EXCEEDED 40BAR EQUIPMENT LIMIT

EARTH ENGINEERING AND SCIENCES, INC. TEST NO. DMT - 4
FILE NAME: SCHNABEL ENGINEERING
FILE NUMBER:

RECORD OF DILATOMETER TEST NO. DMT - 4
USING DATA REDUCTION PROCEDURES IN MARCHETTI (ASCE,J-GED,MARCH 80)
KO IN SANDS DETERMINED USING SCHMERTMANN METHOD (1983)

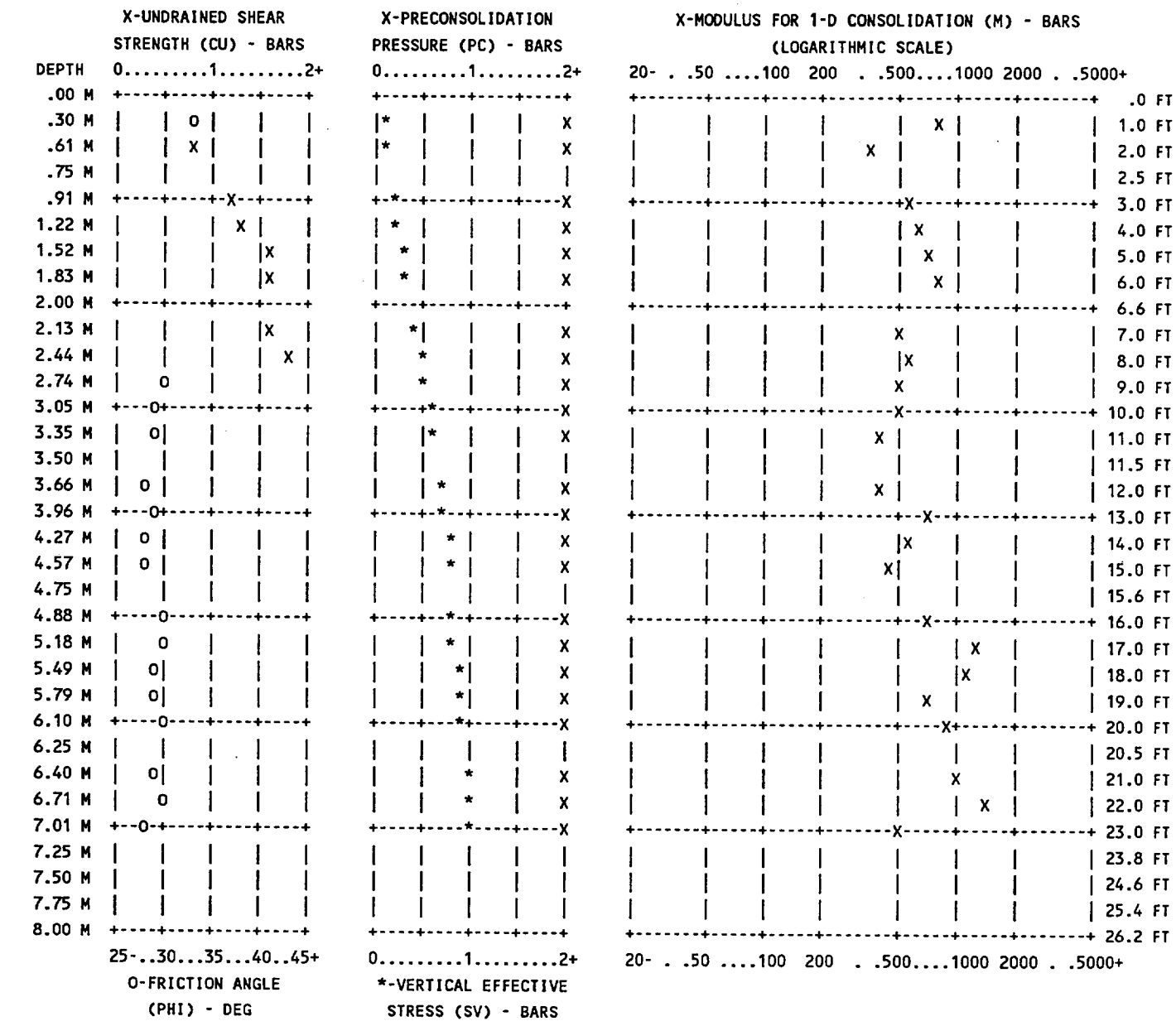
LOCATION: FT Lee, VA.
PERFORMED - DATE: 10 MAR 1999
BY: ALFRED E. MYERS

CALIBRATION INFORMATION:
DA= .21 BARS DB= .45 BARS ZM= .00 BARS ZW= 4.00 METERS

1 BAR = 1.019 KG/CM2 = 1.044 TSF = 14.51 PSI ANALYSIS USES H2O UNIT WEIGHT = 1.000 T/M3

Z (M)	THRUST (KG)	A (BAR)	B (BAR)	ED (BAR)	ID	KD	UO (BAR)	GAMMA (T/M3)	SV (BAR)	PC (BAR)	OCR	KO	CU (BAR)	PHI (DEG)	M (BAR)	SOIL TYPE
.30	7001.	3.85	9.60	185.	1.40	66.76	.000	1.800	.057	21.30	*****	8.30		33.4	797.0	SANDY SILT
.61	6564.	3.40	6.80	100.	.83	31.08	.000	1.800	.112	8.07	72.21	3.56	.758		356.7	CLAYEY SILT
.91	6564.	5.55	10.60	160.	.83	33.63	.000	1.800	.165	13.46	81.67	3.71	1.234		583.5	CLAYEY SILT
1.22	6564.	6.25	12.05	187.	.87	27.97	.000	1.950	.222	13.59	61.26	3.36	1.319		650.5	CLAYEY SILT
1.52	6564.	7.55	14.00	211.	.81	26.76	.000	1.950	.279	15.96	57.17	3.27	1.572		724.0	CLAYEY SILT
1.83	7001.	7.95	15.15	238.	.88	23.14	.000	1.950	.339	15.43	45.58	3.02	1.589		785.0	CLAYEY SILT
2.13	6564.	8.25	13.20	156.	.55	20.86	.000	1.900	.395	15.33	38.78	2.85	1.630		508.6	SILTY CLAY
2.44	7001.	9.10	14.50	173.	.55	20.03	.000	1.900	.453	16.48	36.39	2.78	1.775		554.7	SILTY CLAY
2.74	7439.	4.00	10.65	218.	1.61	7.71	.000	1.800	.507	6.99	13.78	1.32		29.6	491.1	SANDY SILT
3.05	7001.	5.00	11.50	213.	1.25	8.75	.000	1.800	.562	5.97	10.63	1.46		28.7	504.0	SANDY SILT
3.35	7001.	4.00	10.15	200.	1.46	6.40	.000	1.800	.615	5.16	8.39	1.18		28.7	413.5	SANDY SILT
3.66	6564.	4.35	10.55	202.	1.36	6.39	.000	1.800	.670	4.95	7.38	1.19		28.3	416.5	SANDY SILT
3.96	6564.	6.45	15.00	287.	1.32	8.64	.000	1.950	.725	8.34	11.50	1.45		28.9	677.6	SANDY SILT
4.27	7001.	6.15	14.00	262.	1.26	7.88	.026	1.950	.758	6.98	9.21	1.37		28.5	593.7	SANDY SILT
4.57	6564.	5.15	11.95	224.	1.29	6.38	.056	1.800	.784	5.32	6.78	1.19		28.1	460.6	SANDY SILT
4.88	6564.	6.10	15.95	335.	1.67	7.11	.086	1.950	.810	10.55	13.02	1.24		29.6	728.2	SANDY SILT
5.18	6564.	9.55	23.40	481.	1.54	10.72	.116	1.950	.838	18.63	22.22	1.66		30.3	1233.0	SANDY SILT
5.49	6564.	9.80	22.20	428.	1.33	10.70	.146	1.950	.867	14.21	16.39	1.68		29.5	1096.6	SANDY SILT
5.79	6126.	6.60	15.95	317.	1.47	6.93	.176	1.950	.895	8.65	9.67	1.24		28.9	678.9	SANDY SILT
6.10	7001.	7.80	19.40	399.	1.58	7.85	.206	1.950	.924	12.73	13.78	1.33		29.6	903.9	SANDY SILT
6.40	7439.	9.60	21.50	410.	1.31	9.47	.236	1.950	.952	12.47	13.10	1.54		29.1	1001.8	SANDY SILT
6.71	8752.	10.95	26.15	530.	1.50	10.34	.266	2.100	.983	19.43	19.76	1.62		30.1	1341.2	SANDY SILT
7.01	7001.	5.95	13.65	257.	1.34	5.44	.295	1.950	1.013	5.64	5.57	1.09		27.9	488.7	SANDY SILT

REFUSAL AT 7.25M IN GRAVEL TORE MEMBRANE
END OF SOUNDING



END OF SOUNDING

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-2 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: D. Shaff

Dates Started: 3/4/99 **Finished:** 3/4/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 98.2±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/4	1:15	19.0	--	--
Completion	3/4	1:25	25.8	--	--
Casing Pulled	3/4	1:35	Dry	--	14.8
18 hr Reading	3/5	7:50	Dry	--	14.3

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.3	Rootmat and topsoil	FILL	97.9	A		4+5+7+7 PP=3.5 TSF	15.7	FILL
	Fine to coarse sandy lean clay FILL, trace gravel, contains root fragments, moist - brown					7+9+10+12 PP=3.0 TSF		
	do, contains sandy silt lenses							
4.0	Fat clay, trace sand, moist - red brown and gray	CH	94.2	B1	5	4+5+7+10 PP=4.0 TSF		
	do, fine to medium sandy, contains lean clay pockets					9+11+15+14 PP=2.75 TSF		
7.3	Fine to medium clayey sand, moist - brown	SC	90.9			8+11+12+11		
					10			
	do, fine to coarse, trace gravel				15	7+11+10		
17.0	Fine to coarse silty sand, contains clayey sand lenses, wet - brown	SM	81.2	B2				BACONS CASTLE FORMATION
					20	4+5+3		
	do, trace gravel				25	6+5+4		
27.0	Fine to medium poorly graded sand with silt, wet - light gray	SP-SM	71.2					
					30	2+2+5		
30.0	Boring terminated at 30 ft		68.2					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon 18 hour ground water measurement.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-3 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: D. Shaff

Dates Started: 3/4/99 **Finished:** 3/4/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.5±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/4	9:50	19.0	--	--
Completion	3/4	9:55	20.8	--	--
Casing Pulled	3/4	10:05	Dry	--	15.1

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.8	4" Asphalt and crushed stone base course	FILL	98.7	A		9+6+4 PP=1.75 TSF		Petroleum Odor at 1 ft
2.0	Fine to medium sandy silt FILL, trace gravel, contains brick and slag fragments, moist - gray	FILL	97.5			7+7+7+12 PP>4.5 TSF		FILL
4.0	Lean clay with sand FILL, contains root fragments, moist - brown	FILL	95.5		5	5+5+8+5 PP=4.25 TSF		
6.0	Fine to medium sandy silt FILL, contains root fragments, moist - brown do, contains wood fragments below 5.5 ft	CH	93.5			8+9+9+8 PP=3.75 TSF		
	Fat clay, trace sand and gravel, moist - gray and brown			B1	10	4+5+9+11 PP=3.25 TSF	24.4	
12.0	Fine to medium clayey sand, contains silty sand layers, moist - brown and gray	SC	87.5		15	7+7+8		
17.0	Fine to coarse silty sand, wet - brown	SM	82.5		20	8+8+9		BACONS CASTLE FORMATION
	do, trace gravel			B2	25	6+5+8		
27.0	Fine to medium poorly graded sand, trace silt and gravel, wet - light brown	SP	72.5		30	5+5+7		
30.0	Boring terminated at 30 ft		69.5					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-4 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: D. Shaff

Dates Started: 3/4/99 **Finished:** 3/4/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 100.0±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/4	2:10	24.0	--	--
Completion	3/4	2:20	22.8	--	--
Casing Pulled	3/4	2:30	Dry	--	16.5

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	N (%)	REMARKS
.2	Rootmat and topsoil	FILL	99.8	A		5+6+5+5 PP=3.0 TSF		FILL
2.0	Fine to medium sandy lean clay PROBABLE FILL, contains root fragments, moist - brown	CH	98.0			9+10+10+10 PP=3.75 TSF		
	Fat clay, trace sand, moist - gray and brown			B1	5	3+6+10+20 PP>4.5 TSF		
	do, fine sandy, light gray					7+14+18+18 PP>4.5 TSF		
8.0	Fine to medium silty sand, contains mica and clayey sand lenses, moist - brown and gray	SM	92.0		10	9+10+12+14	15.6	
12.0	Fine to medium poorly graded sand with silt, moist - brown and red brown	SP-SM	88.0		15	7+8+11		
17.0	Fine to medium silty sand, contains sandy fat clay layers, moist - brown and gray	SM	83.0	B2	20	8+9+14		BACONS CASTLE FORMATION
22.0	Fine to coarse poorly graded sand, trace silt and gravel, wet - light brown	SP	78.0		25	22+14+12		
					30	12+10+8		
30.0	Boring terminated at 30 ft		70.0					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES
CONSULTING GEOTECHNICAL ENGINEERS
TEST BORING LOG

Project: Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee
Fort Lee, Virginia

Contract Number: 993116
Boring Number: DH-5
Sheet: 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson
Drilling Method: 2¼" I.D. Hollow Stem Auger
Drilling Equipment: CME-45B
SEA Representative: D. Shaff
Dates Started: 3/5/99 **Finished:** 3/5/99
Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.2±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/5	9:15	24.0	--	--
Completion	3/5	9:25	22.0	--	--
Casing Pulled	3/5	9:30	Dry	--	2.4

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.1	Rootmat and topsoil	FILL	99.1	A		6+4+6+6 PP>4.5 TSF		FILL
2.0	Lean clay with sand FILL, trace gravel, contains silty sand lenses and root fragments, moist - brown and red brown	CH	97.2			6+8+9+16 PP=3.25 TSF	28.6	
	Fat clay, trace sand, moist - gray and brown			B1	5	7+15+17+28 PP>4.5 TSF		
	do, contains lean clay layers					7+12+20+23 PP>4.5 TSF		
9.5						7+8+11+13 PP=3.25 TSF		
	Fine silty sand, contains mica, moist - light gray and brown	SM	89.7		10			
					15	4+4+5		
17.0			82.2					
	Fine to coarse poorly graded sand with silt, trace gravel, contains mica and fat clay layers, moist - brown and light gray	SP		B2	20	7+4+5		BACONS CASTLE FORMATION
	do, wet - brown				25	10+6+4		
	do, light gray							
					30	7+5+7		
30.0	Boring terminated at 30 ft		69.2					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-6 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: D. Shaff

Dates Started: 3/5/99 **Finished:** 3/5/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.8±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/5	10:12	19.0	--	--
Completion	3/5	10:20	22.0	--	--
Casing Pulled	3/5	10:30	21.5	--	24.0
70 hr Reading	3/8	7:50	22.6	--	23.4

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.3	Rootmat and topsoil		99.5					
	Fat clay, trace sand and gravel, moist - brown and red brown	CH				3+4+5+6 PP=4.25 TSF		
	do, gray and brown					8+9+10+10 PP=4.0 TSF	27.0	
	do, dry					5+9+18+31 PP>4.5 TSF		
6.0			93.8	B1	5			
	Lean clay with sand, moist - light gray and brown	CL				8+15+23+25 PP>4.5 TSF		
						7+10+13+16 PP>4.5 TSF		
12.0			87.8		10			
	Fine to medium silty sand, contains mica, moist - light gray and brown	SM				5+9+10		BACONS CASTLE FORMATION
17.0			82.8		15			
	Fine to medium poorly graded sand with silt, wet - brown	SP-SM				5+6+7		
	do, light gray			B2	20			
						5+5+5		
27.0			72.8		25			
	Fine to medium poorly graded sand, trace silt, wet - brown	SP				17+10+9		
30.0			69.8		30			
	Boring terminated at 30 ft							

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon 70 hour ground water measurement.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-7 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: D. Shaff

Dates Started: 3/5/99 **Finished:** 3/5/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.6±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/5	11:00	19.0	--	--
Completion	3/5	11:10	23.6	--	--
Casing Pulled	3/5	11:20	Dry	--	2.3

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.2	Rootmat and topsoil	FILL	99.4	A		6+4+6+8 PP>4.5 TSF		FILL
1.0	Lean clay with sand FILL, contains root fragments, moist - red brown	CH	98.6					
	Fat clay, trace sand, moist - gray and brown					8+9+15+12 PP>4.5 TSF		
					5	4+5+6+10 PP=4.25 TSF	27.4	
				B1		4+13+17+20 PP>4.5 TSF		
						6+9+16+21 PP>4.5 TSF		
					10			
12.0	Fine to medium clayey sand, contains lean clay layers, moist - light gray and brown	SC	87.6			7+6+7		
					15			BACONS CASTLE FORMATION
	do, fine to coarse, trace gravel, contains fat clay layers and mica, wet							
					20	6+3+3		
				B2				
22.0	Fine to coarse poorly graded sand with silt, trace gravel, wet - brown	SP-SM	77.6					
					25	5+6+7		
27.0	Fine to medium poorly graded sand, trace silt, wet - brown	SP	72.6					
					30	13+12+9		
30.0	Boring terminated at 30 ft		69.6					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993118 **Boring Number:** DH-8 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: D. Shaff

Dates Started: 3/5/99 **Finished:** 3/5/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.8±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/5	12:00	24.0	--	--
Completion	3/5	12:10	25.3	--	--
Casing Pulled	3/5	12:50	Dry	--	15.2

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.1			99.7					
.6	Rootmat and topsoil	FILL	99.2	A		5+5+6+8 PP=3.75 TSF		FILL
	Fine to coarse sandy lean clay FILL, trace gravel, contains root fragments, moist - brown	CL						
2.0			97.8			8+9+8+12 PP>4.5 TSF		
	Lean clay with sand, moist - red brown	CH		B1				
	Fat clay, trace sand, moist - gray, brown, and red brown				5	4+6+10+13 PP>4.5 TSF		
6.0	do, contains silty sand pockets, gray and brown	SC	93.8			6+12+14+16		
	Fine to medium clayey sand, contains mica, moist - gray							
8.0		SM	91.8			6+9+9+10	11.2	
	Fine to medium silty sand, contains mica, moist - brown				10			
					15	6+7+7		
17.0			82.8					
	Fine to medium poorly graded sand with silt, contains mica and fat clay layers, moist - brown and gray	SP-SM		B2				BACONS CASTLE FORMATION
					20	8+6+3		
22.0			77.8					
	Fine to medium silty sand, contains clayey sand layers, wet - brown	SM						
					25	4+8+9		
27.0			72.8					
	Fine to coarse poorly graded sand, with silt, wet - brown	SP-SM						
					30	3+5+5		
30.0	Boring terminated at 30 ft		69.8					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-9 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: D. Shaff

Dates Started: 3/5/99 **Finished:** 3/5/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.8±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/5	1:40	24.0	--	--
Completion	3/5	1:45	28.4	--	--
Casing Pulled	3/5	2:00	Dry	--	2.7

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.2	Rootmat and topsoil	FILL	99.6	A		5+11+22+11 PP>4.5 TSF		FILL
2.0	Fine to medium sandy lean clay, contains concrete and root fragments, moist - brown	CH	97.8			12+12+12+14 PP=4.25 TSF		
	Fat clay, trace sand, moist - gray and brown							
	do, with sand				5	5+8+9+8 PP=4.5 TSF	22.4	
	do, gray			B1		4+6+11+16 PP>4.5 TSF		
						6+9+12+15 PP>4.5 TSF		
					10			
12.0	Fine silty sand, contains mica, moist - brown and light gray	SM	87.8	B2	15	6+9+14		BACONS CASTLE FORMATION
17.0	Fine to medium sandy lean clay, contains organic matter, mica and clayey sand lenses, moist - brown and gray	CL	82.8	B1	20	4+3+3 PP=1.25 TSF		
22.0	Fine to coarse clayey sand, contains organic matter and fat clay layers, wet - light brown	SC	77.8	B2	25	4+3+2		
	do, trace gravel				30	14+8+7		
30.0	Boring terminated at 30 ft		69.8					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-10 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: S. Pond

Dates Started: 3/9/99 **Finished:** 3/9/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.9±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/9	--	Dry	--	--
Completion	3/9	11:20	Dry	--	--
Casing Pulled	3/9	11:25	Dry	--	--

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
0.1	Rootmat and topsoil	FILL	99.8	A		6+4+3+4	14.5	FILL
2.4	Fine to coarse clayey sand FILL, trace gravel, contains cinders, moist - brown		97.5			11+9+8+6 PP=3.25 TSF		
	Fat clay with sand, moist - gray and brown	CH		B1				
	do, trace sand				5	11+9+7+8 PP=3.25 TSF		BACONS CASTLE FORMATION
6.0	Boring terminated at 6 ft		93.9					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-11 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: D. Shaff

Dates Started: 3/4/99 **Finished:** 3/4/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 98.3±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/4	11:50	19.0	--	--
Completion	3/4	12:00	22.7	--	--
Casing Pulled	3/4	12:10	Dry	--	2.9

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.3	Rootmat and topsoil	FILL	98.0	A		3+7+8+3 PP=3.0 TSF	16.7	FILL
	Fine to coarse sandy lean clay FILL, trace gravel, contains root, wood and concrete fragments, moist - brown					5+4+4+6 PP=1.75 TSF		
	do, contains silty sand layers and root fragments, brown				5	3+3+4+5 PP=3.25 TSF		
	do, contains organic matter					5+5+4+8 PP=1.0 TSF		
6.0	Fine to medium sandy lean clay PROBABLE FILL, contains fat clay layers and root fragments, moist - brown	FILL	92.3					
8.0	Fine to coarse clayey sand, contains mica, moist - gray and brown	SC	90.3			5+5+7+9		BACONS CASTLE FORMATION
	do, brown				10			
					15	6+10+12		
17.0	Fine to coarse silty sand, wet - brown	SM	81.3	B2				
					20	5+3+4		
	do, trace gravel, light brown				25	4+5+5		
	do, contains clayey pockets, wet - brown							
30.0	Boring terminated at 30 ft		68.3		30	3+3+4		

Comments:
1) Elevations referenced to finished floor Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-12 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: D. Shaff

Dates Started: 3/4/99 **Finished:** 3/4/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 98.4±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/4	10:41	19.0	--	--
Completion	3/4	10:54	20.2	--	--
Casing Pulled	3/4	11:07	Dry	--	14.3

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DATA	W (%)	REMARKS
.8	4" Asphalt and crushed stone base course	FILL	97.6	A	10+6+7		FILL
2.0	Fine to coarse silty sand FILL, trace gravel, contains lean clay layers and slag fragments, moist - brown	FILL	96.4		6+7+8+7 PP=2.5 TSF		
	Fine to medium sandy lean clay FILL, contains root fragments, moist - gray				4+3+4+5		
	do, contains organic matter and asphalt fragments						
6.0	Fat clay, trace sand, contains root fragments, moist - gray and brown	CH	92.4	B1	4+4+3+4 PP=1.75 TSF		
					3+3+4+6 PP=2.75 TSF		
12.0	Fine to coarse clayey sand, trace gravel, moist - brown and gray	SC	86.4		5+7+9		
17.0	Fine to coarse poorly graded sand with silt and gravel, wet - brown	SP-SM	81.4	B2	5+3+4	15.2	BACONS CASTLE FORMATION
	do, trace gravel				7+8+8		
27.0	Fine to coarse poorly graded sand, trace silt and gravel, wet - light brown	SP	71.4		5+5+9		
30.0	Boring terminated at 30 ft		68.4				

Comments:
1) Elevations referenced to finished floor of Water Training Divison Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-13 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: D. Shaff

Dates Started: 3/4/99 **Finished:** 3/4/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.6±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/4	2:45	4.0	--	--
Completion	3/4	3:10	20.5	--	--
Casing Pulled	3/5	8:25	Dry	--	5.7
17 hr Reading	3/5	8:00	19.6	--	--

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.1	Rootmat and topsoil	FILL	99.5			9+7+9+11		
	Fine to medium sandy silty clay FILL, contains root fragments and crushed stone, moist - brown			A		13+10+7+7 PP=3.5 TSF	12.2	FILL
	do, contains organic matter					3+2+2+2 PP=1.75 TSF		Perched ground water at 4 ft
	do, wet				5			
6.0	Fat clay, trace sand, moist - gray and brown	CH	93.6			5+5+6+7 PP=2.75 TSF		
						3+5+5+6 PP>4.5 TSF		
				B1	10			
12.0	Fine to medium sandy lean clay, moist - red brown	CL	87.6					
15.0	Fine to coarse clayey sand, moist - gray	SC	84.6		15	6+9+12 PP>4.5 TSF		
17.0	Fine to coarse silty sand, trace gravel, wet - brown and light gray	SM	82.6					BACONS CASTLE FORMATION
					20	6+7+7		
22.0	Fine to medium poorly graded sand with silt, contains mica, wet - brown	SP-SM	77.6	B2				
	do, fine to medium				25	2+3+6		
	do, fine to coarse							
					30	7+9+7		
30.0	Boring terminated at 30 ft		69.6					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-14 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: D. Shaff

Dates Started: 3/8/99 **Finished:** 3/8/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.8±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/8	1:55	19.0	--	--
Completion	3/8	2:10	21.8	--	--
Casing Pulled	3/8	2:20	Dry	--	2.0

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.1	Rootmat and topsoil	FILL	99.7	A		5+6+9+15 PP=4.0 TSF		FILL
1.5	Fine to medium sandy lean clay FILL, contains root fragments and crushed stone, moist - brown	CH	98.3					
	Fat clay, trace sand, moist - gray					7+10+7+11 PP=4.0 TSF		
						3+5+7+8 PP=4.0 TSF	32.5	
	do, contains lean clay pockets			B1	5	8+9+15+16 PP>4.5 TSF		
						4+5+6+7 PP=2.75 TSF		
					10			
12.0	Fine to medium clayey sand, contains silty sand pockets and mica, moist - light gray and brown	SC	87.8					
				B2	15	4+6+9		
17.0	Fine to medium silty sand, wet - brown	SM	82.8					BACONS CASTLE FORMATION
19.5	Fat clay, trace sand, moist - gray	CH	80.3	B1	20	5+4+5 PP=3.75 TSF		
22.0	Fine to coarse poorly graded sand, trace silt and gravel, wet - brown	SP	77.8					
				B2	25	11+9+9		
27.0	Fine to coarse poorly graded sand with silt, wet - brown	SP-SM	72.8					
					30	6+6+9		
30.0	Boring terminated at 30 ft		69.8					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-15 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: D. Shaff

Dates Started: 3/8/99 **Finished:** 3/8/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.7±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/8	11:55	19.0	--	--
Completion	3/8	12:05	23.4	--	--
Casing Pulled	3/8	1:20	Dry	--	4.6

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.4	Rootmat and topsoil		99.3					
	Lean clay with sand, contains silty sand layers and root fragments, moist - brown	CL				5+4+4+5 PP=2.75 TSF		
2.0			97.7					
	Fat clay, trace sand, moist - brown, gray and red brown	CH		B1		8+9+9+11 PP=4.0 TSF		
	do, gray and brown				5	4+5+7+10 PP=3.75 TSF		
6.0			93.7					
	Fine sandy lean clay, contains mica, moist - brown and gray	CL				5+16+21+25 PP>4.5 TSF		
8.0			91.7					
	Fine to medium silty sand, contains clayey sand layers, moist - light gray and brown	SM			10	8+10+11+12	18.5	
12.0			87.7					
	Fine to medium poorly graded sand with silt, moist - brown	SP-SM			15	6+8+8		BACONS CASTLE FORMATION
17.0			82.7					
	Fine to coarse silty sand, trace gravel, wet - light gray and brown	SM		B2	20	7+9+7		
22.0			77.7					
	Fine to coarse poorly graded sand with silt, trace gravel, wet - light gray	SP-SM			25	4+6+10		
27.0			72.7					
	Fine to coarse poorly graded sand, trace silt, wet - gray and light brown	SP			30	7+8+12		
30.0			69.7					
	Boring terminated at 30 ft							

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-16 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: D. Shaff

Dates Started: 3/8/99 **Finished:** 3/8/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.5±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/8	11:00	24.0	--	--
Completion	3/8	11:15	22.4	--	--
Casing Pulled	3/8	11:25	19.3	--	23.4

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.8	Rootmat and topsoil		98.7			4+4+4+5 PP=2.75 TSF		
2.0	Fine to medium sandy lean clay, contains root fragments, moist - brown	CL	97.5			9+6+5+9 PP=2.75 TSF	19.1	
	Fat clay with sand, moist - gray and brown	CH		B1	5	4+8+15+20 PP>4.5 TSF		
	do, contains silty sand lenses							
6.0	Fine sandy lean clay, contains mica, moist - gray and brown	CL	93.5			5+9+12+15 PP>4.5 TSF		
						5+10+11+11		
9.5	Fine to medium silty sand, contains mica, moist - light gray and brown	SM	90.0	B2	10			
					15	7+8+10		PLEISTOCENE TERRACE
19.4	Fat clay, trace sand, moist - gray	CH	80.1	B1	20	6+3+3 PP=2.0 TSF		
22.0	Fine to medium poorly graded sand with silt, wet - brown	SP-SM	77.5					
				B2	25	4+9+11		
27.0	Fine to coarse silty sand, wet - brown	SM	72.5					
					30	6+5+4		
30.0	Boring terminated at 30 ft		69.5					

Comments:
1) Elevations referenced to finised floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-17 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: D. Shaff

Dates Started: 3/8/99 **Finished:** 3/8/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.6±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/8	10:08	24.0	--	--
Completion	3/8	10:17	23.5	--	--
Casing Pulled	3/8	10:30	Dry	--	12.1

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DATA	W (%)	REMARKS
.1	Rootmat and topsoil	FILL	99.5	A	6+6+9+10		FILL
1.5	Fine to medium sandy lean clay FILL, contains silty sand pockets, rock fragments and crushed stone, moist - brown	CH	98.1		9+7+12+12 PP=3.25 TSF		
	Fine to medium sandy fat clay, moist - brown and gray			B1	4+2+6+9 PP=4.0 TSF		
6.0	Fine to coarse sandy lean clay, trace gravel, moist - gray and brown	CL	93.6		6+12+17+21 PP>4.5 TSF	22.4	
8.0	Fine clayey sand, contains mica, moist - light gray and brown	SC	91.6		7+8+10+12		
12.0	Fine to medium silty sand, contains mica, moist - brown and gray	SM	87.6		6+7+10		BACONS CASTLE FORMATION
17.0	Fine to medium poorly graed sand with silt, moist - light gray and brown	SP-SM	82.6	B2	6+5+4		
22.0	Fine to coarse clayey sand, trace gravel, contains fat clay layers, wet - gray	SC	77.6		1/12+3 PP=0.5 TSF		
27.0	Fine to medium poorly graded sand, trace silt, contains mica, wet - brown	SP	72.6	B2	7+11+11		
30.0	Boring terminated at 30 ft		69.6				

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-17A **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 3¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: S. Pond

Dates Started: 3/9/99 **Finished:** 3/9/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.6±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/9	--	--	--	--
Completion	3/9	1:40	--	--	--
Casing Pulled	3/9	1:45	Dry	--	16.3
18.5 hr Reading	3/10	8:20	Dry	--	16.0

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
	Auger Probe to 23 ft; see Boring Log B-17 for Strata Description.				5 10 15 20			
23.0	Fine to coarse poorly graded sand with silt, trace gravel, contains fat clay layers, wet - brown	SP-SM	76.6	B2		3T 16/10	23.3	BACONS CASTLE FORMATION
24.3	Boring terminated at 24.3 ft		75.3					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled 18.5 hour ground water measurement.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-17B **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 3¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: S. Pond

Dates Started: 3/10/99 **Finished:** 3/10/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.6±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/10	--	--	--	--
Completion	3/10	12:20	21.6	--	--
Casing Pulled	3/10	12:30	Dry	--	14.3

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DATA	W (%)	REMARKS
	Auger Probe to 21 ft; see Boring Log B-17 for Statra Description.				5 10 15 20		
21.0	Fine to coarse poorly graded sand with silt, trace gravel, contains fat clay layers, wet - gray and brown	SP-SM	78.6	B2	3T 24/24	21.7	BACONS CASTLE FORMATION
23.0	Boring terminated at 23 ft		76.6				

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-18 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: D. Shaff

Dates Started: 3/8/99 **Finished:** 3/8/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.8±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/8	9:13	24.0	--	--
Completion	3/8	9:22	23.5	--	--
Casing Pulled	3/8	9:30	Dry	--	12.8

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.2	Rootmat and topsoil	FILL	99.6	A		3+7+7+8 PP>4.5 TSF	16.7	FILL
2.0	Fine to coarse sandy lean clay FILL, contains root and brick fragments, moist - brown and red brown	CH	97.8			11+12+14+14 PP>4.5 TSF		
	Fat clay trace sand, contains root fragments, moist - gray and brown					5+7+12+17 PP>4.5 TSF		
	do, trace gravel, gray, brown and red brown				5			
6.0	Fine sandy lean clay, moist - brown and gray	CL	93.8	B1		4+9+11+13 PP=4.0 TSF		
	do, with sand, contains fat clay pockets					3+5+6+9 PP=3.75 TSF		
					10			
12.0	Fine to medium silty sand, moist - brown	SM	87.8					
					15	6+7+10		
17.0	Fine to medium poorly graded sand with silt, moist - light gray	SP-SM	82.8	B2				BACONS CASTLE FORMATION
					20	8+8+11		
	do, fine to coarse, trace gravel, wet							
25.0	Fat clay, trace sand, wet - gray and brown	CH	74.8	B1	25	6+6+4 PP=0.25 TSF		
27.0	Fine to medium poorly graded sand with silt, contains fat clay lenses, wet - brown and gray	SP-SM	72.8	B2				
					30	4+5+14		
30.0	Boring terminated at 30 ft		69.8					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES
CONSULTING GEOTECHNICAL ENGINEERS
TEST BORING LOG

Project: Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee
Fort Lee, Virginia

Contract Number: 993116
Boring Number: DH-19
Sheet: 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson
Drilling Method: 2¼" I.D. Hollow Stem Auger
Drilling Equipment: CME-45B
SEA Representative: D. Shaff
Dates Started: 3/5/99 **Finished:** 3/8/99
Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.6±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/5	2:30	24.0	--	--
Completion	3/5	2:45	28.9	--	--
Casing Pulled	3/8	8:30	Dry	--	12.1
66 hr Reading	3/8	8:00	23.1	--	--

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
0	Rootmat and topsoil	FILL	99.5	A	2	2+2+7+4 PP=4.25 TSF		FILL
2.0	Fine to medium sandy lean clay FILL, contains sandy silt lenses, concrete and root fragments, moist - brown	CH	97.6					
	Fat clay, trace sand, moist - gray and brown				4	4+5+6+7 PP=3.75 TSF		
					5	4+5+7+11 PP>4.5 TSF		
				B1	7	4+7+9+10 PP=3.75 TSF		
	do, contains lean clay layers, gray and red brown				9	4+8+8+13 PP>4.5 TSF		
					10			
12.0	Fine to medium silty sand, contains mica, moist - brown and gray	SM	87.6		14	5+5+7	15.8	BACONS CASTLE FORMATION
					15			
	do, fine to medium, light brown			B2	19	5+6+8		
					20			
	do, fine to coarse, trace gravel, wet				24	14+15+10		
					25			
27.0	Fine sandy lean clay, contains mica, wet - dark gray	CL	72.6	C	29	3+3+3 PP=2.0 TSF		MIOCENE
30.0	Boring terminated at 30 ft		69.6		30			

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES
CONSULTING GEOTECHNICAL ENGINEERS
TEST BORING LOG

Project: Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee
Fort Lee, Virginia

Contract Number: 993116
Boring Number: DH-20
Sheet: 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson
Drilling Method: 2¼" I.D. Hollow Stem Auger
Drilling Equipment: CME-45B
SEA Representative: D. Shaff/S. Pond
Dates Started: 3/8/99 **Finished:** 3/9/99
Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.7±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/8	3:00	24.0	--	--
Completion	3/8	3:10	27.1	--	--
Casing Pulled	3/9	8:35	Dry	--	11.7
17.5 hr Reading	3/9	8:20	22.5	--	--

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.4	Rootmat and topsoil	CL	99.3			7+7+7+8 PP>4.5 TSF		
1.5	Fine to medium sandy lean clay, contains root fragments, moist - brown	CH	98.2			10+8+9+14 PP=4.25 TSF	22.1	
4.0	Fat clay with sand, moist - gray and brown	CL	95.7	B1	5	6+10+16+21 PP>4.5 TSF		
	Fine to medium sandy lean clay, contains fat clay pockets, moist - gray and brown					8+8+16+17 PP=4.0 TSF		
	do, with sand							
8.5	Fine silty sand, contains mica, moist - light gray and brown	SM	91.2		10	7+11+11+15		
12.0	Fine to coarse poorly graded sand, trace silt, moist - brown	SP	87.7		15	5+8+8		BACONS CASTLE FORMATION
	do, fine to medium, light brown			B2	20	4+4+5		
22.0	Fine to coarse silty sand, trace gravel, wet - brown	SM	77.7		25	3+6+6		
27.0	Fine to medium clayey sand, trace gravel, wet - light gray	SC	72.7					
					30	2+2+4 PP=1.75 TSF		
30.0	Boring terminated at 30 ft		69.7					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-21 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: S. Pond

Dates Started: 3/9/99 **Finished:** 3/9/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.7±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/9	--	Dry	--	--
Completion	3/9	11:02	Dry	--	--
Casing Pulled	3/9	11:05	Dry	--	.3

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.1	Rootmat and topsoil	FILL	99.6	A		9+5+6+6		FILL
1.5	Fine to coarse clayey sand FILL, trace gravel, contains root fragments, silty sand layers and cinders, moist - brown	CH	98.2			11+9+10+14 PP=4.25 TSF		
	Fat clay, trace sand, moist - gray and brown			B1	5	5+5+6+8 PP=3.5 TSF	30.1	BACONS CASTLE FORMATION
6.0	Boring terminated at 6 ft		93.7					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-22 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: S. Pond

Dates Started: 3/9/99 **Finished:** 3/9/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.8±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/9	--	Dry	--	--
Completion	3/9	11:11	Dry	--	--
Casing Pulled	3/9	11:13	Dry	--	1.0

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.1	Rootmat and topsoil	FILL	99.7	A		10+6+4+5		FILL
1.1	Fine to coarse silty sand FILL, trace gravel, contains root and crushed stone fragments, moist - gray	CH	98.7			9+6+9+9 PP=4.0 TSF	28.5	
	Fat clay with sand, moist - brown and dark gray			B1				BACONS CASTLE FORMATION
	do, trace sand				5	8+6+9+14 PP=4.0 TSF		
6.0	Boring terminated at 6 ft		93.8					

Comments:
1) Elevations referenced to finished floor Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-23 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: S. Pond

Dates Started: 3/9/99 **Finished:** 3/9/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.0±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/9	--	Dry	--	--
Completion	3/9	9:00	Dry	--	--
Casing Pulled	3/9	9:03	Dry	--	2.0

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.1	Rootmat and topsoil	FILL	98.9	A		5+5+6+5		FILL
	Fine to coarse clayey sand FILL, trace gravel, moist - brown							
2.3	do, contains brick fragments	CH	96.7	B1		7+5+10+11 PP=3.5 TSF		BACONS CASTLE FORMATION
	Fine to medium sandy fat clay, moist - brown and gray							
	do, trace sand				5	6+6+9+12 PP=3.5 TSF	31.9	
6.0	Boring terminated at 6 ft		93.0					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES
CONSULTING GEOTECHNICAL ENGINEERS
TEST BORING LOG

Project: Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee
Fort Lee, Virginia

Contract Number: 993116
Boring Number: DH-24
Sheet: 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson
Drilling Method: 2¼" I.D. Hollow Stem Auger
Drilling Equipment: CME-45B
SEA Representative: D. Shaff
Dates Started: 3/10/99 **Finished:** 3/10/99
Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.0±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/10	12:45	2.0	--	--
Completion	3/10	12:50	--	--	--
Casing Pulled	3/10	12:54	Dry	--	.8

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.1	Rootmat and topsoil	FILL	98.9			7+7+6+4		FILL
	Fine to coarse clayey sand PROBABLE FILL, trace gravel, contains root fragments, moist - brown							
2.0		FILL	97.0	A		8+7+5+6	13.9	Perched ground water
	Fine to medium sandy silt FILL, wet - gray brown							
4.0		CL	95.0			4+3+4+4		BACONS CASTLE FORMATION
	Lean clay with sand, wet - brown			B1	5	PP=0.25 TSF		
6.0	Boring terminated at 6 ft		93.0					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-25 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: S. Pond

Dates Started: 3/9/99 **Finished:** 3/9/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.0±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/9	--	Dry	--	--
Completion	3/9	9:20	Dry	--	--
Casing Pulled	3/9	9:25	Dry	--	2.4

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.1	Rootmat and Topsoil	FILL	98.9			7+6+7+7		
	Fine to coarse clayey sand FILL, trace gravel, contains cinders, moist - brown			A		7+4+5+8	14.8	FILL
4.7						4+5+6+9		
	Fat clay, trace sand, moist - brown and gray	CH	94.3	B1	5	PP=3.0 TSF		BACONS CASTLE FORMATION
6.0	Boring terminated at 6 ft		93.0					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-26 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: S. Pond

Dates Started: 3/9/99 **Finished:** 3/9/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.0±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/9	9:30	5.5	--	--
Completion	3/9	9:32	Dry	--	--
Casing Pulled	3/9	9:35	Dry	--	4.2

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.2	Rootmat and topsoil	FILL	98.8					
	Fine to coarse clayey sand FILL, trace gravel, contains crushed stone, moist - gray brown			A		6+8+8+8		
	do, brown					13+7+5+4		FILL
4.0	Lean clay with sand, wet - gray and brown	CL	95.0	B1	5	3+2+3+2 PP=0.5 TSF	24.0	Perched ground water
6.0	Boring terminated at 6 ft		93.0					BACONS CASTLE FORMATION

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-27 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: S. Pond

Dates Started: 3/9/99 **Finished:** 3/9/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.0±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/9	--	Dry	--	--
Completion	3/9	9:44	Dry	--	--
Casing Pulled	3/9	9:46	Dry	--	1.7

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.1	Rootmat and topsoil	FILL	98.9	A		6+3+4+5		FILL
	Fine to coarse clayey sand FILL, trace gravel, contains cinders, moist - brown							
2.5		CH	96.5	B1		5+10+13+10 PP=3.75 TSF	24.4	
	Fat clay with sand, moist - brown and gray				5	8+8+10+13 PP>4.5 TSF		BACONS CASTLE FORMATION
6.0	Boring terminated at 6 ft		93.0					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-28 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: S. Pond

Dates Started: 3/9/99 **Finished:** 3/9/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.0±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/9	--	Dry	--	--
Completion	3/9	10:18	Dry	--	--
Casing Pulled	3/9	10:21	Dry	--	1.9

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.2	Rootmat and topsoil	FILL	98.8	A		5+5+6+7		FILL
2.2	Fine to coarse clayey sand FILL, trace gravel, moist - brown		96.8			7+6+11+12 PP>4.5 TSF		BACONS CASTLE FORMATION
	Fat clay with sand, moist - brown and gray	CH		B1				
	do, trace sand				5	5+5+6+7 PP=4.0 TSF	28.4	
6.0	Boring terminated at 6 ft		93.0					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility at Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-29 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: S. Pond

Dates Started: 3/9/99 **Finished:** 3/9/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.3±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/9	10:28	2.0	--	--
Completion	3/9	10:31	Dry	--	--
Casing Pulled	3/9	10:33	Dry	--	1.8

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
.1	Rootmat and topsoil	FILL	99.2					FILL
	Fine to coarse clayey sand FILL, trace gravel, contains root fragments, moist - gray and brown			A		4+5+5+6		Perched groundwater
	do, wet - brown					4+5+6+4		
3.5	Fat clay, trace sand and gravel, moist - gray and brown	CH	95.8	B1	5	7+7+13+19 PP>4.5 TSF	26.9	BACONS CASTLE FORMATION
6.0	Boring terminated at 6 ft		93.3					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.

SCHNABEL ENGINEERING ASSOCIATES CONSULTING GEOTECHNICAL ENGINEERS TEST BORING LOG	**Project:** Aerial Delivery and Field Services Training Facility (ADFS), Fort Lee Fort Lee, Virginia	**Contract Number:** 993116 **Boring Number:** DH-30 **Sheet:** 1 of 1

Boring Contractor: Ayers and Ayers, Inc.
Powhatan, Virginia

Boring Foreman: C. Jamerson

Drilling Method: 2¼" I.D. Hollow Stem Auger

Drilling Equipment: CME-45B

SEA Representative: S. Pond

Dates Started: 3/9/99 **Finished:** 3/9/99

Location: See Location Plan, Figure A1

Ground Surface Elevation: 99.5±

Ground Water Observations

	Date	Time	Depth	Casing	Caved
Encountered	3/9	--	Dry	--	--
Completion	3/9	10:43	Dry	--	--
Casing Pulled	3/9	10:45	Dry	--	1.9

DEPTH (FT.)	STRATA DESCRIPTION	CLASS.	ELEV. (FT.)	STRATUM	SAMPLING DEPTH	SAMPLING DATA	W (%)	REMARKS
0.1	Rootmat and topsoil	FILL	99.4	A		7+5+3+2		FILL
	Fine to coarse clayey sand FILL, trace gravel, moist - brown							
2.0	Lean clay with sand, moist - brown and gray	CL	97.5	B1		6+5+7+7 PP=3.25 TSF	18.8	BACONS CASTLE FORMATION
4.0	Fat clay, trace sand, moist - brown and gray	CH	95.5		5	9+7+10+11 PP=3.5 TSF		
6.0	Boring terminated at 6 ft		93.5					

Comments:
1) Elevations referenced to finished floor of Water Training Division Warehouse. Assumed elevation 100.0±.
2) Boring backfilled upon completion.